SHOUT
SHARE
IT

9.82:06(42)

FOR THE PEOPLE
FOR EDVCATION
FOR SCIENCE

LIBRARY
OF
THE AMERICAN MUSEUM
OF
NATURAL HISTORY

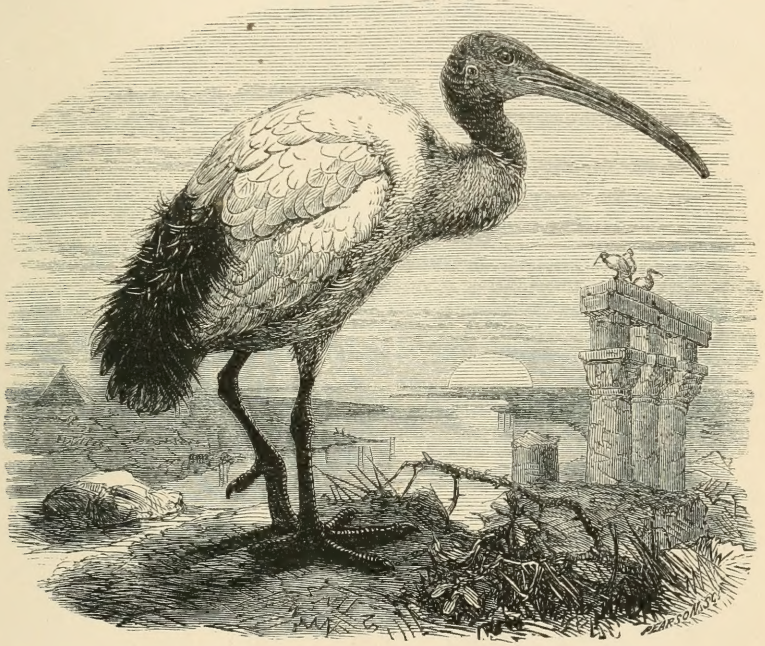
9,80

THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY
ALFRED NEWTON, M.A.,
PROFESSOR OF ZOOLOGY AND COMPARATIVE ANATOMY
IN THE UNIVERSITY OF CAMBRIDGE,
F.L.S., V.P.Z.S., ETC., ETC.

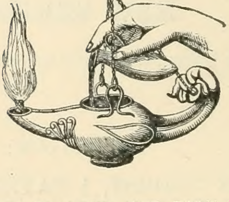


VOL. V. 1869.

NEW SERIES.

> Ibidis interea tu quoque nomen habe!
> —Ovid.

LONDON:
JOHN VAN VOORST, 1 PATERNOSTER ROW.
1869.


ALERE FLAMMAM.

PRINTED BY TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.

PREFACE.

Aided by many hands no less willing than able, this volume of 'The Ibis' presents an appearance of which its Editor would feel justly proud, did he not know that its merits are due far more to the efficient support he has received from his friends than to his own endeavours.

A. N.

Magdalene College, Cambridge.
October 1869.

BRITISH ORNITHOLOGISTS' UNION.

1869.

Ordinary Members.

John H. Barneby-Lutley, M.A.; Brockhampton, Herefordshire.

Henry Buckley, F.Z.S.; Edgbaston, Birmingham.

Thomas Edward Buckley, B.A., F.Z.S.; Westwood House, Beverley.

John H. Cochrane; Dunkathel, County Cork.

Arthur William Crichton, B.A., F.L.S., F.Z.S.; Broadward Hall, Salop.

Henry Eeles Dresser, F.Z.S.; The Firs, South Norwood, Surrey.

Henry Maurice Drummond-Hay, C.M.Z.S., Lieutenant-Colonel, Royal Perth Rifles; Seggieden, Perthshire.

Henry John Elwes, F.Z.S., late Captain, Scots Fusilier Guards; 41 Portman Square, London.

Thomas Campbell Eyton, F.Z.S.; Eyton Hall, Salop.

George Gooch Fowler, B.A.; Gunton Hall, Suffolk.

Rev. Henry Elliott Fox, B.A.; 22 Cornmarket, Oxford.

Frederick DuCane Godman, F.L.S., F.Z.S.; 55 Lowndes Square, London.

Percy Sanden Godman, B.A., C.M.Z.S.; Borregaard, Sarpsborg, Norway.

John Henry Gurney, F.Z.S. &c.

James Edmund Harting, F.L.S., F.Z.S.; 24 Lincoln's-Inn Fields, London.

Rev. William Henry Hawker, M.A., F.Z.S.; Ashford, Sussex.

Rev. Herbert S. Hawkins, M.A.; Rector of Beyton, Suffolk.

Wilfrid Hudleston Hudleston, M.A., F.Z.S.; 21 Gloucester Place, Portman Square, London.

Allan Octavian Hume, C.B., Indian Civil Service; Agra.

ARTHUR EDWARD KNOX, M.A., F.L.S., F.Z.S.; Trotton House, Sussex.

Right Hon. THOMAS LYTTLETON, Lord LILFORD, F.L.S., F.Z.S., &c.; Lilford Hall, Northants.

ALEXANDER GOODMAN MORE, F.L.S. &c.; 3 Botanic View, Glasnevin, Dublin.

EDWARD CLOUGH NEWCOME; Feltwell Hall, Norfolk.

ALFRED NEWTON, M.A., F.L.S., V.P.Z.S., &c.; Magdalene College, Cambridge.

EDWARD NEWTON, M.A., F.L.S., C.M.Z.S.; Colonial Secretary, Mauritius.

JOHN WILLIAM POWLETT-ORDE, F.Z.S., late Captain 42nd (Royal Highland Regiment); Auchnaba House, Argyllshire.

E. J. RODES; Exchequer and Audit Department, Somerset House.

GEORGE DAWSON ROWLEY, M.A., F.Z.S.; 5 Peel Terrace, Brighton.

OSBERT SALVIN, M.A., F.L.S., F.Z.S.; 32 The Grove, Boltons, London.

PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S., F.L.S., Sec. Z.S., &c.; 15 Lower Belgrave Street, London.

CHARLES WILLIAM SHEPHERD, M.A., F.Z.S.; Trottersclifle, Kent.

Rev. ALFRED CHARLES SMITH, M.A., Rector of Yatesbury, Wilts.

ROWLAND M. SPERLING, Acting-Commander Royal Navy, Her Majesty's Ship 'Racoon.'

HENRY STEVENSON, F.L.S.; Unthank's Road, Norwich.

H. S. LESTRANGE, Her Majesty's Legation, Washington.

Rev. EDWARD CAVENDISH TAYLOR, M.A., F.Z.S.; Oxford and Cambridge Club, London.

GEORGE CAVENDISH TAYLOR, F.Z.S.; 42 Elvaston Place, London.

Rev. HENRY BAKER TRISTRAM, M.A., LL.D., F.R.S., F.L.S., C.M.Z.S., &c., Master of Greatham Hospital, Durham.

HENRY MORRIS UPCHER, F.Z.S.; Sheringham Hall, Norfolk.

Right Hon. ARTHUR Viscount WALDEN, F.L.S., Pres. Z.S.; Walden Cottage, Chiselhurst, Kent.

Rev. JAMES WILLIAMS; Tring Park, Herts.

Extra-Ordinary Members.

EDWARD BLYTH, Hon. Memb. As. Soc.; 21 Chalcot Crescent, London.

ALFRED RUSSEL WALLACE, F.Z.S.; 9 Saint Mark's Crescent, London.

Honorary Members.

Professor Spencer F. Baird, Assistant Secretary to the Smithsonian Institution, *Washington.*

Doctor Edward Baldamus, Moritzzwinger, No. 7, *Halle a. S.*, Sekretär der deutschen Ornithologen-Gesellschaft.

Doctor Jean Cabanis, Erster Custos am Königlichen Museum der Friedrich-Wilhelm's Universität zu *Berlin.*

Doctor Gustav Hartlaub, *Bremen.*

T. C. Jerdon, Surgeon-Major in Her Majesty's Army, *Madras.*

Edgar Leopold Layard, F.Z.S., South African Museum, *Capetown.*

August v. Pelzeln, Custos am K.-K. zoologischen Cabinete in *Wien.*

Professor J. Reinhardt, Kongelige Naturhistoriske Museum i *Kjöbenhavn.*

Robert Swinhoe, F.Z.S., F.R.G.S., Her Majesty's Consul at *Amoy.*

Jules P. Verreaux, Aide-Naturaliste du Muséum d'Histoire Naturelle à *Paris.*

CONTENTS OF VOL. V.—NEW SERIES.

(1869.)

NUMBER XVII., *January*.

Page

I. Stray Notes on Ornithology in India. By ALLAN HUME, C.B. 1

II. The Bird-Stations of the Outer Hebrides. By HENRY JOHN ELWES, Lieut. and Capt. Scots Fusilier Guards, F.Z.S. . 20

III. On some New Species of New-Zealand Birds. By WALTER BULLER, F.L.S., C.M.Z.S. 37

IV. Notes on Birds observed near Nynee Tal and Almorah, from April to June 1868. By W. E. BROOKS, C.E. 43

V. On some new *Procellariidæ* collected during a Voyage round the World in 1865–1868 by H.I.M.'s S. '*Magenta*.' By HENRY HILLYER GIGLIOLI, Sc.D., C.M.Z.S., Naturalist to the Expedition, and THOMAS SALVADORI, M.D., C.M.Z.S., Assistant in the Royal Zoological Museum of Turin 61

VI. Further Notes on South-African Ornithology. By E. L. LAYARD, F.Z.S. 68

VII. The *Malurinæ* of North-Eastern Africa. By Dr. M. T. VON HEUGLIN. (Plates I.–III.) 79

VIII. Notices of Recent Ornithological Publications:—

1. *English*:—Gould's 'Birds of Great Britain,' parts xiii. and xiv.; Sclater and Salvin's 'Exotic Ornithology,' parts vii. and viii.; A. C. Smith's 'Nile and its Banks;' Barnard's Translation of Paijkull's 'Summer in Iceland' 108

Page
2. *Dutch*:—Schlegel and Pollen—'Recherches sur la Faune de Madagascar,' livr. iv. 112
3. *German*: — Von Pelzeln's 'Ornithologie Brasiliens,' Abth. ii. 113
4. *Portuguese*:—Bocage on West-African Ornithology . . . 117
5. *American*:—Coues's "Synopsis of the Birds of South Carolina" 118

IX. Letters, Announcements, &c.:—

Letters from Mr. Allan Hume, Colonel Tytler, Messrs. J. Hepburn, Van Wickevoort-Crommelin, and Gould 120

NUMBER XVIII., *April*.

X. The *Malurinæ* of North-Eastern Africa. By Dr. M. T. VON HEUGLIN 129

XI. Stray Notes on Ornithology in India. By ALLAN HUME, C.B. 143

XII. Further Notes on the Birds of Morocco. By C. F. TYRWHITT DRAKE 147

XIII. List of Birds obtained in Sikkim, Eastern Himalayas, between March and July 1867. By G. E. BULGER, F.L.S., F.R.G.S., C.M.Z.S. 154

XIV. Ornithological Rambles in Spain. By HOWARD SAUNDERS, F.Z.S. 170

XV. On a Collection of Birds from the Fantee Country in Western Africa. By R. B. SHARPE. (Plate IV.) 186

XVI. Note on the Species of the Genus *Hirundinea*, belonging to the Family *Tyrannidæ*. By P. L. SCLATER, M.A., Ph.D., F.R.S., Sec. Zool. Soc. (Plate V.) 195

XVII. On some of the Birds of Prey of Central Bulgaria. By C. FARMAN, C.E. 199

XVIII. Notes on some new South-African *Sylviidæ*. By H. B. TRISTRAM, M.A., F.R.S., &c. (Plate VI.) 204

Page

XIX. Remarks on *Dr. Stoliczka's* 'Ornithological Observations in the Sutlej Valley.' By ARTHUR Viscount WALDEN, P.Z.S. &c. 208

XX. Notices of Recent Ornithological Publications:—

1. *English*:—Sharpe's 'Monograph of the *Alcedinidæ*,' parts ii. and iii.; Wallace's 'Malay Archipelago;' Huxley on *Alectoromorphæ* 215
2. *French*:—A. Milne-Edwards's 'Oiseaux Fossiles de la France;' Ornithological Papers in the 'Revue de Zoologie' . 218
3. *Italian*:—Salvadori on Birds from Costa Rica, and new *Caprimulgidæ* 222
4. *Dutch*:—Finsch's 'Die Papageien,' vol. ii. 223
5. *Norwegian*:—Collett's 'Norges Fugle' 225
6. *Russian*:—Brandt on the Affinities of the Dodo . . . 227
7. *American*:—Coues's 'List of the Birds of New England' 228

XXI. Letters, Announcements, &c.:—

Letters from Drs. Malmgren, Jerdon, and Cunningham, Messrs. Brooks and Hume, Prof. Reinhardt, Dr. Giglioli, and Lord Walden; Extracts from a letter from Dr. Brewer; Death of Mr. Cassin; Erratum 229

NUMBER XIX., *July*.

XXII. Third Appendix to a List of Birds observed in Malta and Gozo. By CHARLES A. WRIGHT, C.M.Z.S. 245

XXIII. Researches into the Zoological Affinities of the Bird recently described by *Herr von Frauenfeld* under the name of *Aphanapteryx imperialis*. By ALPHONSE MILNE-EDWARDS. (Plate VII.) 256

XXIV. On the Kingfishers of South Africa. By R. B. SHARPE 275

XXV. Second List of Birds collected, during the Survey of the Straits of Magellan, by *Dr. Cunningham*. By P. L.

Page

Sclater, M.A., Ph.D., F.R.S., and Osbert Salvin, M.A., F.L.S., F.Z.S. 283

XXVI. Notes on Birds of the Territory of the Trans-Vaal Republic. By Thomas Ayres 286

XXVII. On rare or little-known *Limicolæ*. By James Edmund Harting, F.L.S., F.Z.S. (Plate VIII.) 304

XXVIII. Notes on *Mr. Lawrence's* List of Costa-Rica Birds. By Osbert Salvin, M.A. &c. 310

XXIX. The Strickland Collection in the University of Cambridge. By The Editor. (Plate IX.) 320

XXX. On the *Cuculidæ* described by *Linnæus* and *Gmelin*, with a sketch of the Genus *Eudynamus*. By Arthur Viscount Walden, P.Z.S. &c. (Plate X.) 324

XXXI. Letters, Announcements, &c. :—

Letters from Messrs. E. P. Ramsay, Swinhoe, and Gerard Krefft, Prof. Baird, Capt. F. W. Hutton, Messrs. W. E. Brooks, Allan Hume, and Boyd Dawkins, and Capt. Feilden ; Death of Mr. Hepburn 346

Number XX., *October*.

XXXII. Further Notes on South-African Ornithology. By E. L. Layard, F.Z.S. &c. 361

XXXIII. Remarks on some species of Birds from New Zealand. By Dr. O. Finsch, C.M.Z.S. &c. 378

XXXIV. On two more Collections of Birds from the Fantee Country. By R. B. Sharpe. (Plate XI.) 381

XXXV. Birds observed during two Voyages across the North Atlantic. By George Cavendish Taylor, F.Z.S. . . . 388

XXXVI. Notes on the Ornithology of Italy and Spain. By Howard Saunders, F.Z.S. 391

Page

XXXVII. Additional Notes on various Indian Birds. By R. C. Beavan, Bengal Staff Corps, C.M.Z.S. 403

XXXVIII. On rare or little-known *Limicolæ*. By James Edmund Harting, F.L.S., F.Z.S. (Plate XII.) 426

XXXIX. Notes on some African Birds. By the Rev. H. B. Tristram, M.A., LL.D., F.R.S., &c. 434

XL. Notes on the Bills of the species of Flamingo (*Phœnicopterus*). By G. R. Gray, F.R.S. &c. (Plates XIII.–XV.) . 438

XLI. Notes on the Birds-of-prey of Madagascar and some of the adjacent Islands. By J. H. Gurney, F.Z.S. (Plate XVI.) 443

XLII. Letters, Announcements, &c.:—

Letters from Messrs. C. Horne, A. O. Hume, W. E. Brooks, E. L. Layard, and R. B. Sharpe, Sir William Jardine, and Messrs. P. L. Sclater, J. H. Gurney, and Swinhoe; Announcement of Mr. G. R. Gray's 'Hand-list of Birds' and of Mr. Elliot's proposed Monograph of the *Phasianidæ*; Delay of Notices of Recent Ornithological Publications 454

Index 465

PLATES IN VOL. V.

NEW SERIES.

Page
I. Fig. 1. Drymœca marginata 94
Fig. 2. —— iodoptera 93
II. Fig. 1. —— concolor 97
Fig. 2. —— flaveola 98
III. Fig. 1. —— eximia 106
Fig. 2. —— ferruginea 135
Fig. 3. Hemipteryx oligura 136
IV. Huhua poensis 194
V. Fig. 1. Hirundinea bellicosa 196
Fig. 2. —— ferruginea 196
Fig. 3. —— rupestris 198
VI. Saxicola arnotti 206
VII. Aphanapteryx brœckii 256
VIII. Anarhynchus frontalis 306
IX. Campethera capricorni 323
X. Eudynamis ransomi 343
XI. Fig. 1. Nigrita uropygialis 384
Fig. 2. —— emiliæ 384
XII. Eurynorhynchus pygmæus 432
XIII.–XV. *Bills of species of* Phœnicopterus 438
XVI. Hypotriorchis eleonoræ 445

ERRATA ET CORRIGENDA.

Page	Line
215,	21, *for* six *read* eight.
219,	last of note, *after* "Longipennes" *insert* , or rather "Palmipèdes" of uncertain position.
220,	2, second column, *for* 1869 *read* 1868.
222,	24, for *Baryphtheugus* read *Baryphthengus.*
225,	5, *for* 351 *read* 354.
280,	8, *before* bird *insert* Madagascar.
312,	12, for *griseieps* read *griseiceps.*

THE IBIS.

NEW SERIES.

No. XVII. JANUARY 1869.

I.—*Stray Notes on Ornithology in India.*

By Allan Hume, C.B.

No. II. *Birds'-nesting in Bareilly in the early Rains.*

"Exalted Highness, if it be pleasing to your noble temperament and there be leisure, several birds have laid eggs in your Honour's compound, and in the morning your Honour might see and take them."

So spoke my head fowler, or Meer Shikaree, last evening. By caste a Karōl, tall, powerful, and handsome, a better sportsman or a greater liar probably does not exist.

In season and out of season, with reason and without reason, he lies, lies, lies. It is many years since he first entered my service, and we have both in the course of time conceived a certain fondness for each other; but it is nearly as many years since I first realized the fact that he was never to be believed, and hence made a *sine quâ non* of taking the first few nests, of every species new to me, with my own hands.

Bareilly, where I now am, the headquarters of Rohilcund, is only about fifty miles south of the Himalayahs, and scarcely thirty from the dense fringe of jungle, swamp and forest that, under the name of the "*Terai*," skirts the southern slopes of the mountains.

It is late in June the rains commenced about eight days ago;

and we are now having a few days' break of bright weather. Very hot and steamy it is all day; but when in the early morning we emerged from the house the air was inexpressibly fresh and cool, and every little breeze was perfumed by a huge dome-shaped shrub of what is called, I think, the Spanish Jasmine (*Plumieria acuminata*), that stands, in full flower, some thirty yards from the house.

The rains appear to have a wonderful effect upon many of our *Insessores*. Of a vast number of species, individuals will indeed be found laying languidly throughout the latter part of the hot weather; but it is not until the rains come down that the great mass of the birds begin to lay in earnest. Three weeks ago we searched our compound pretty thoroughly; and the only nests it then contained were two of *Xantholæma indica* and one of *Megalæma caniceps*. Both these well-known Barbets excavate holes in trees, and therein lay long oval thin-shelled eggs, which are like polished alabaster when blown, but when fresh, owing to the yelk showing partially through, seem of a delicate salmon-pink. The same peculiarity is noticeable in many birds that lay in holes; it is specially conspicuous in two of our commonest Woodpeckers, *Picus mahrattensis* and *Brachypternus aurantius*. Both the Barbets seem to be able to find out branches that are decayed internally, although to the human eye exhibiting no external signs of this; and into such, through the harder outer shell of the branch, they cut a perfectly circular hole, with the edges neatly bevelled off inside and out. The eggs are at the bottom of the cavity into which they have thus bored (and which they smooth a good deal interiorly), often a couple of feet below the *door*, and laid merely on the chips that they have made. Very noisy birds are the Barbets; the little *Xantholæma indica* is known throughout the length and breadth of the land by its everlasting "too, too, too, too," which in some parts has earned it the name of "the Coppersmith," from the peculiar metallic ring of its single note. Pretty as it is, it is anything but a favourite bird amongst Europeans, as, comparatively silent during the cold weather, its incessant note is an only too sure harbinger of the hot season. Natives view the matter differently; and their poets give a conspicuous place to this little rude musician, as one who heralds the season of love and marriage. The larger bird, *Megalæma caniceps,* is even more noisy; and throughout the hot weather in Bareilly the early mornings are resonant with its loud cries, mingled with the familiar notes of what, though separated as a distinct species, I should call the local representative of our favourite Cuckoo. The cry of the larger Barbet is extraordinarily loud; "kookeroo, kookeroo, kookeroo" rings through the air, almost as if fired out of a gun; and it is really wonderful how long the bird can keep on ejecting these notes as it does, bowing the whole body each time, and inflating the bare patches on each side of the base of the throat, seen only, by the way, when it is in the act of calling.

A few weeks ago these two species of Barbets were the only birds that had nests in our large compound, to-day we have found nearly fifty.

Not thirty yards from the house is a group of common mango-trees (*Mangifera indica*); and in one of these my Shikaree pointed out a dense clump of leaves, some fifteen feet from the ground. "There," he said, "is a nest of a '*Podua,*' and the bird is sitting." Neither nest nor bird could I see; so a little clod of earth was thrown gently up, and with a feeble twitter and a little jerking flight away flew a tiny, rather long-tailed bird, whitish below, and, as it seemed, of a dingy hue above. It alighted close by, and began dodging rapidly about, up and down branches and trunk, in and out of the leaves, now here, now there, with such unintermitting action that it was several minutes before I could shoot it. Once in the hand, there was no mistaking the Tailor-bird (*Orthotomus longicauda*). Sending a lad up, we soon had the nest. Three of the long ovato-lanceolate leaves of the mango, whose peduncles sprang from the same point, had been neatly drawn together with gossamer threads run through the sides of the leaves, and knotted outside, so as to form a cavity like the end of a netted purse, with a wide slit on the side nearest the trunk, beginning near the bottom and widening upwards. Inside this, the real nest, nearly 3 inches deep and about 2 in diameter, was neatly constructed of wool and fine vegetable fibres, the bottom being thinly lined with horsehair. In this lay three tiny, delicate, bluish-white eggs, with a few pale reddish-brown blotches at the large ends, and just a very few spots and specks of the same colour elsewhere. The eggs were all very similar in appearance and size, and measured ·625 in. in length by ·434 in breadth*.

To the left of us rose a number of splendid trees of the sirris (*Acacia sirissa*), the favourite haunt earlier in the season of the common green Parrakeets (*Palæornis torquatus*), who find its soft wood easy to bore for nest-holes. High up in one of these, at the end of a huge branch, I caught sight of what from below seemed a round bunch of fine grass inserted at the last fork: close at hand sat a brilliant yellow bird, here called the "Mango-bird" by Europeans, and "*Peeluk*" (*i.e.* the yellow one) by the natives. A stone sent it flying, while simultaneously from the nest, where it had previously remained unnoticed, darted its mate. Closely allied to the Golden Oriole of Europe, *Oriolus kundoo* is one of the pure yellow-headed group. Of Orioles I know four very distinct groups: the first is that just mentioned, the second with a black crescent on the nape, the third with the whole head black, and the fourth with the golden or canary colour (it varies in different species) everywhere replaced by a rich deep maroon-red. The branch was cut, and we soon had the nest and eggs before us. The former was a most beautifully woven shallow purse, hung from the fork of two twigs, made of fine grass and slender strips of some tenacious bark bound round and round the twigs, and secured to them much as a prawn-net is to its wooden frame-work. This nest contained no extraneous matters; but other nests that we had taken during the previous week had all kinds of odds and ends, scraps of newspaper, shavings, rags, and thread, interwoven in the exterior of the purse, the interior always being neatly lined with fine grass-stems. The eggs, two in number, were very beautiful, glossy, with a delicate pink shade, pure white when blown, and with a number of very well marked black spots and specks. These two measured 1·187 in. by ·812, but they vary a good deal both in size, number, and in shade of markings. Some eggs previously obtained measure as little as 1 inch by ·75 In some the spots are very small and few in number, and of a deep red-brown instead of the normal black; while in others, again, where the black spots are well marked, they are surrounded by a sort of reddish haze or halo. All the nests that we have found have been situated similarly, and hung in the same manner from between the fork of two or three twigs, as that found this morning. In every case the bird had chosen a spot where the leaves of the twigs used as a frame-work formed more or less of a shady canopy above it. Four eggs are the greatest number yet found in one nest.

---

* The nest of this bird varies much in appearance, according to the number and description of leaves which it employs, and the manner in which it employs them; but the nest itself is usually chiefly composed of fine cotton-wool, with a few horse-hairs and, at times, a few very fine grass stems as a lining, apparently to keep the wool in its place and enable the cavity to retain permanently its shape. I have found them with three leaves fastened, at equal distances from each other, into the sides of the nest, and not joined to each other at all. I have found them between two leaves, the one forming a high back and turned up at the end to form the bottom of the nest, the other hiding the nest in front and hanging down below the bottom of the nest, the tip only of the first leaf being sewn to the middle of the second. I have found them with four leaves sewn together to form a canopy and sides, from which the bottom of the nest depended bare; and I have found them between two long leaves, whose sides from the very tips to near the peduncles were closely and neatly sewn together. For sewing they generally use cobweb; but silk from cocoons, thread, and vegetable fibres are also used. The eggs also vary much. The most normal are, before blowing, of a delicate pink—when blown, of a still more delicate white—with pale reddish-brown specks and spots, always most numerous towards the large end, and sometimes forming there an irregular cap. In size they vary little, only from ·594 to ·687 in. in length, and from ·437 to ·434 in. in breadth. Four is the greatest number of eggs I have found in any nest.

Whilst we were looking at the nest, my companion spied out a Crow (*Corvus splendens*) on a nest near the very top of the tree. "Hallo," I said to my man, "you didn't see that nest." "Not see that nest?" replied he, with a look of ineffable scorn. "Protector of the poor! what is this slave's business, that any bird should succeed in building a nest and I not know of it? The truth is, I have watched it for long; but the Crow—may she be accursed—though the time has fully come, will not lay therein. Only yesterday I examined it; it was empty."

Notwithstanding this assurance, I had a boy sent up, when the nest proved to contain four eggs. "Very strange," I remarked; "empty yesterday, four eggs to-day. How is that?" "Cherisher of the needy! it is customary amongst Crows, when they perceive that the season has nearly passed, and that as yet they have laid no eggs, to invite on a certain day their relatives to lay eggs for them. Without doubt such has been the case to-day, and all these four eggs have been this morning laid by the relatives of that barren, God-forgotten black one, that has just flown off the nest as if the eggs were her own. Indeed, before the sun of your honour's glory lit up the world this morning, I heard a great cawing in this tree, and, said I to myself, let us see what this thing may mean——"

It would not do for one of Her Majesty's judges to be seen kicking one of Her Majesty's subjects about his premises; besides, I am a patient man, or else——Well, here is an ornithological fact quite new to the world of science; and if my Meer Shikaree's authority is thought good, any one is welcome to make use of it.

The eggs of *Corvus splendens* are of normal appearance. In some the ground is a very pale pure bluish-green, in others it is dingier and greener. All are blotched, speckled, and streaked more or less with somewhat pale sepia markings; but in some the spots and specks are a darker brown, and, as a rule, well defined, and there is very little streaking; while in others the brown is pale and muddy, the markings ill-defined, and nearly the whole surface of the egg is freckled over with smudgy streaks. Sometimes the markings are most numerous at the large end, sometimes at the small; no two eggs are exactly alike, and yet they have so strong a family resemblance that there is no possibility of mistaking them. They are a good deal smaller than those of the common black Crow of the plains of India (*C. culminatus*), which lays earlier in the year, and measure from 1·187 to 1·437 in. in length, and from 1 inch to 1·093 in breadth. The Crow whose eggs we had just taken, kept flying about uneasily from tree to tree, when suddenly out darted at it a little bird about a twentieth of its weight, white below, smoke-coloured above, with a conspicuous white eyebrow, visible plainly as it darted after the dusky giant, whose approach it evidently so strongly disapproved. The flight, and the long fan-shaped outspread tail, left no doubt that it was one of the fan-tailed Flycatchers (*Leucocerca aureola*).

The nest was built on a horizontal branch of a mango, a very delicate small tumbler-like affair, scarcely ·25 in. in thickness anywhere, closely woven of very fine grass, and coated over its whole exterior with cobwebs. The interior diameter was about 1·75 in., the depth about 1·125. Although the little bird returned and sat across it, with the bill and half the head projecting in front, and the whole tail from the vent overhanging behind, the nest contained no eggs. However, I took a precisely similar one at Etawah on the 29th of March, containing three slightly incubated eggs, which in shape were a short oval, and measured ·562 in. by ·531. The ground-colour was white, with many exceedingly minute yellowish-brown specks, which formed near the middle towards the large end a pretty broad nearly confluent zone, mingled with rather larger spots of a faint greyish-brown, or perhaps I ought to say, of a very pale inky hue. The white ground in the neighbourhood of this zone was feebly and partially tinged with buff; and altogether the egg shows a sort of family likeness to the eggs of many of the true Shrikes, and especially to those of the pretty little *Lanius hardwickii**, to a nest of which we next turned our attention.

Of all our Indian Shrikes this is the smallest, liveliest, and brightest-coloured. Sitting or flying, it is essentially a cheerful, bright, neat little bird.

Individuals of this species have been laying ever since the middle of April; but nests were then few and far between, and now they are common enough. Each species of bird seems to have its own nest-plan, and each genus or family its style of architecture; and what to me has always appeared confirmatory of Mr. Darwin's views is, that representative species, in far distant countries, build nests so similar in design and class of materials that it is difficult to doubt that all derive their architecture from a common ancestor.

---

* [Rectiùs *L. vittatus*. *Cf.* Ibis, 1867, p. 220.—Ed.]

The nest that we had just found was precisely like twenty others that we had found during the past two months,—rather deep, with a nearly hemispherical cavity, very compactly and firmly woven of fine grass, rags, feathers, soft twine, wool, and a few fine twigs, the whole entwined exteriorly with plenty of cobwebs, and the interior cavity, about 1·75 in. deep by 2·25 in diameter, neatly lined with very fine grass, one or two horse-hairs, shreds of string, and one or two soft feathers. The walls were a good inch in thickness. It was placed in a fork of a thorny jujube, or ber-tree (*Zizyphus jujuba*), near the middle of the tree, and some fifteen feet from the ground. It contained four fresh eggs, feebly coloured miniatures of the eggs of *Lanius lahtora*, which latter so closely resemble those of *L. excubitor* that, if the eggs were mixed, they could never, I think, be certainly separated again. The eggs exhibit the zone so characteristic of all Shrikes, and have a dull pale ground, not white; and yet it is difficult to say what colour it is that tinges it. In these four eggs it is a yellowish stone-colour, but in others greenish, and in some grey. Near the middle towards the large end there is a broad and conspicuous, but broken and irregular zone of feeble, more or less confluent, spots and small blotches of pale yellowish-brown, and very pale, washed-out purple. There are a few faint specks and spots of the same colour here and there about the rest of the egg. In some eggs previously obtained the zone is quite in the middle, and in others close round the large end. In some the markings are clear and bright; in others they are as faint and feeble as one of our modern Manchester warranted-fast-colour muslins after its third visit to a native washerman. In size, too, the eggs vary a good deal, measuring from ·75 in. to ·906 in length, by from ·562 to ·687 in breadth.

The little Shrike had a great mind to fight for his *penates*, and twice made a vehement demonstration of attack; but his heart failed him, and he retreated to a neighbouring mango-branch, whence a few minutes after we saw him making short dashes after his insect-prey, apparently oblivious of the domestic calamity that had so recently befallen him.

We had now to cross the road into the public gardens to secure the greatest prize of the morning—the nest of the Rocket-bird (*Tchitrea paradisi*).

The Rocket-bird has two distinct stages of plumage. In the one the head, throat, and neck, with a very full crest of pointed feathers, is a glossy metallic blackish-green, and the rest is snowy-white, the feathers mostly black-shafted. The bird, from the tip of the bill to the end of all but the middle tail-feathers, is from 8 to 9 inches in length, the middle tail-feathers extending more than 12 inches at times beyond the lateral ones. In the other stage the head and neck is black, the breast and abdomen dull white, and all the rest of the plumage bright chestnut. The middle tail-feathers in this stage never, I think, exceed the lateral ones by more than 10 inches.

Then we have white ones and chestnut ones without any elongation of the centre tail-feathers, and with every amount of elongation up to the limits above given. Besides these, in some the throat and breast are ashy, and some are particoloured chestnut and white.

Now the puzzle has always been, What do these two liveries mean? I cannot yet be quite certain of the matter; but my belief now is that *the chestnut, and not the white, is the breeding-plumage.* During the last two months the white plumage has been getting rarer, and we have been killing lots of chestnut birds with long tails, all males, and with the *testes* largely developed. Two days ago, and again this day, we have taken nests with short-tailed female chestnut birds on them.

I suspect that the breeding birds drop the white plumage which makes them so conspicuous, and assume the chestnut livery, the males alone having the middle tail-feathers elongated. What confirms me in this idea is, that the only two white birds that we recently got had the *testes* no bigger than pins' heads, showing that they were not breeding. However, this is still an open question; one thing only is certain, namely, that short-tailed chestnut birds were sitting on the two nests we have taken. And now for this second nest which we took to-day. In the public gardens is a large circular reservoir, dry and empty during the hot season, but now half full of water. On the banks on one side are a number of sheeshum-trees (*Dalbergia sissoo*); and on one of the outermost branches of these, at the very end where the branch hangs nearly straight downwards, and where only one independent twig, dissenting from its principal, persists in growing straight upwards, between branch and twig was placed a half-egg-shaped nest, a mere shell, very closely and compactly woven of fine grass-roots and grass, thickly coated exteriorly with cobwebs, among which a great number of small white empty cocoons had been interwoven. The nest was nowhere much above ·25 in. in thickness; and the cavity was about 2·5 in. in diameter at the margin, and 1·5 in. deep. The nest we took the other day was seated on the horizontal branch of a mango, had horsehair and a little fine tow interwoven with the grass interiorly, and was a trifle smaller. Exteriorly the two were precisely similar.

On this nest, its head tucked close in, with only the beak projecting in front, but with the whole tail from the vent showing beyond the nest behind, sat a chestnut female, whose middle tail-feathers were not in the least elongated. The nest contained three fresh eggs, precisely similar to the four which we took two days ago. They were white, with a very pale salmon-coloured tinge and numerous dull red specks and spots, nearly all gathered into a large patch at the broad end, where they were partly confluent, and their interspaces filled up by a haze of a paler shade of the same colour, as if the colouring of the spots had partially run. All the eggs were much of the same size and shape, and only varied from 1·187 in. to ·875 in length, and from ·5625 to ·593 in breadth.

The full-grown bird, feathers and all, never weighs quite an ounce, while its whole length is sometimes close upon 2 feet; it flies pretty rapidly, in undulatory sweeps, its long tail waving behind; and seen flitting through the dense jungle and forest glades of the Dhoon and Terai, where it is especially abundant, it is really, in its white livery, one of the most remarkable birds we have in India. Close to the tank is a thick clump of saul-trees (*Shorea robusta*), the great building-timber of India, whose natural home is in that vast Subhimalayan belt of forests which I have above mentioned as passing only thirty miles to the north of Bareilly. Here the trees are but puny representatives of their giant race; but even then, straight and well shaped, with large brilliantly glossy green leaves, they catch the eye at once and fix it pleasantly. In one of these a common Bulbul, *Pycnonotus pusillus*, had made its home.

The nest was a compact and rather massive one, built at a fork, on and round a small twig; externally it was composed of the stems (with the dry leaves and flowers still on them) of a tiny groundsel- (*Senecio*-) like asteraceous plant, among which were mingled a number of quite dead and skeleton leaves and a few blades of dry grass. Inside, rather coarse grass was tightly woven into a lining to the cavity, which was deep, being about 2 inches in depth by 3 in diameter. This is the common form of nest; but half an hour later, and scarcely a hundred yards distant, we took another nest of this same species, which was beautifully built in a mango towards the end of one of the branches, where it divided into four upright twigs, between which the Bulbul had firmly planted her dwelling. Externally it was as usual, chiefly composed of the withered stems of the little asteraceous plant, interwoven with a few shoots of *Tamarix diœca* and a little tow-like fibre of the putsan (*Hibiscus cannabinus*), while a good deal of cobweb was applied externally here and there. The inside was lined with exceedingly fine stems of some herbaceous exogenous plant; and there did not appear to be a single dead leaf or a single particle of grass in the whole nest. The eggs, however, in both nests, three in each, closely resembled each other, being of a delicate pink ground, with reddish-brown and purplish-grey spots and blotches almost equally distributed over the whole surface of the egg, the reddish-brown in places becoming almost maroon-red. Two eggs, however, that we took out of a nest similar to the first in structure, but situated, like the second, in a mango, were of a somewhat different character and very different in tint. The ground was dingy reddish-pink, and the whole of the egg was thickly mottled all over with very deep blood-red, the mottlings being so thick at the larger end as to form an almost perfectly confluent cap. Altogether the colouring of these two eggs (*si licet minores*) reminded one of richly-coloured examples of that of *Neophron percnopterus*.

Some of the Bulbul's eggs that we have taken earlier in the season were much less strongly coloured than any of those obtained to day, and presented a very different appearance. With a pinkish-white ground, and moderately thickly but very uniformly speckled all over with small spots of light purplish-grey, light reddish-brown, and very dark brown, the egg scarcely seems to belong to the same bird as the boldly-blotched or richly-mottled specimens. In size, too, the eggs of this bird vary very greatly; some few are fully 1 inch in length, while a good many do not exceed ·75 in., and in width they vary from ·562 to ·687. In shape, too, they differ scarcely less; some are long and perfectly oval, some nearly round, some are nearly alike at both ends, while some are almost cones based on hemispheres. Close to our own gate is a pretty neem-tree (*Melia azadirachta*), a species now naturalized in Provence and other parts of the south of France. High up in a fork, a small nest was visible, and, projecting over it on one side, a black forked tail that could belong to nothing but the King-Crow, of which the local representative here is *Dicrurus macrocercus*. Of this bird we had already taken, during the last six weeks, at least fifty nests; and in many cases where we had left the empty nest, we found it a week later with a fresh batch of eggs laid therein. Many birds will never return to a nest which has once been robbed; but others, like the King-Crow and the little Shrike (*Lanius hardwickii*) above described, will continue laying even after the nest has been twice plundered. The very day after the nest has been robbed of perhaps four slightly-incubated eggs, a fresh one, that otherwise would assuredly never have seen the light, is laid, and that, too, a fertile egg, which, if not meddled with, will be hatched off in due course. It might be supposed that immediately on discovering their loss, nature urged the birds to new intercourse, the result of which was the fertile egg; and this, in some cases, is probably really the case, Martins and other *Hirundinidæ* being often to be seen busy with love's pleasing labour before their eggs have been well stowed away by the collector. But this will not account for instances that I have observed of birds in confinement, which, separated from the male before they had laid their full number, and then later, just when they began to sit, deprived of their eggs, straightway laid a second set, neither so large nor so well-coloured as the first, but still fertile eggs that were duly hatched. But for the removal of the first set, these subsequent eggs would never have been developed or laid. Now the theory has always been that the contact of the sperm- and germ-cells causes the development and fertilization of the latter. In these cases no fresh accession of sperm-cells was possible; and hence it would seem as if, in some birds, the female organs were able to store up living sperm-cells, which are only applied to fertilize and develop ova in the event of some accident rendering it necessary, but otherwise ultimately lose their vitality and pass away without action.

The nest of the King-Crow that we took was of the ordinary character; in fact, I have noticed scarcely any difference in the shape or materials of all the numerous nests of this common bird that I have yet seen. They are all composed of tiny twigs and the scented roots of the cucus-grass, neatly and tightly woven together, being exteriorly bound round with a good deal of cobweb. The cavity is broad and shallow, the bottom of the nest thin, and the sides rather thick and firm. In this case the cavity was 4 inches in diameter and about 1·5 in depth, and it contained three pure white glossless eggs, varying from 1 inch to 1·125 in length, and all ·75 in width. In the very next tree, however (a mango—and this is perhaps their favourite tree), was another similar nest, containing four eggs, slightly glossy, with a salmon-pink tinge throughout, and numerous well-marked, brownish-red specks and spots, most numerous towards the large end, looking vastly like Brobdignagian specimens of the Rocket-bird's eggs. The variation in the eggs of this species is remarkable: out of more than one hundred, nearly a third have been pure white; and between the dead glossless purely white egg and a somewhat glossy warm pink-grounded one, with numerous well-marked spots and specks of maroon-colour, dull red, red-brown, or even dusky, every possible gradation is found. Each set of eggs, however, seems to be invariably of the same character, and we have never yet found a quite white and a well-coloured and marked egg in the same nest.

The King-Crows are very jealous of the approach of other birds, even of their own species, to a nest in which they have eggs; and many a little family would this year have been safely reared and their ovate cradles have escaped the plundering hands of my shikarees, had not attention been invariably called to the whereabouts of the nest by the pertinacious and vicious rushes of one or other of the parents from near their nest at every feathered thing that passed by them.

As we stood waiting for the eggs of the King-Crow to be brought us, a speckled female Koil (*Eudynamis orientalis*) suddenly emerged from a group of mango-trees in our own compound, pursued by several Crows. This bird is famous in Indian song as the harbinger of that glad rainy season when, to quote the Indian poet, the sun-parched widowed earth puts off her withered dust-soiled weeds, and, soon to become the joyful mother of autumn's harvests, dons a fresh bridal robe of green. Throughout the rains the loudly whistled cry "Who are you ?" rings through every copse, and has from very early times been as great a favourite with the people of Hindostan as ever that of the Cuckoo was with us. When we came to inspect the clump of mangos out of which the angry Crows had come, we found in them no less than seven of their nests, and in two of these discovered unmistakable eggs of the Koil. Did these two both belong to the fugitive female, discovered when, for the third time, she made the attempt ? Were they the eggs of sister adventuresses, who had put her up to the locality as one in which business was likely to be done ? I confess I am not deep enough in the secrets of the mottled ladies, upon whom respectable Crow matrons doubtless look as the worst of "social evils", to answer these questions ; but about the eggs there could be "no deception." These eggs (and others that we have obtained on previous occasions, in more than one instance two out of the same Crow's nest) measured from 1·093 to 1·187 in. in length, and from ·875 to ·937 in breadth. One egg had a pale olive-green ground, thickly blotched and spotted with two shades of brown, the one being somewhat purplish and the other yellowish ; the blotches and spots were entirely confluent at the large end. Of the other, the ground-colour was a pale sea-green, pretty thickly blotched and spotted with olive-brown, some of the spots and blotches being much fainter and having an almost purplish tinge. Most of the blotches were gathered into a very broad irregular ill-defined zone round the large end. These were normal eggs; and none of the thirteen that I have procured during the past fortnight differed much from one or other of them.

At the extremity of one of the branches of these same mango-trees a small truss of hay, as it seemed, at once caught every eye. This was one of the huge nests of the Pied Pastor (*Sturnopastor contra*), and proved to be some 2 feet in length and 18 inches in diameter, composed chiefly of dry grass, but with a few twigs, many feathers, and a strip or two of rag intermingled in the mass. The materials were loosely put together; and the nest was placed high up in a fork, near the extremity of a branch. In the centre was a well-like cavity some 9 inches deep by 3·5 in diameter, at the bottom of which, amongst many feathers, lay four fresh eggs, four or five being the full number laid by this bird. The eggs are glossy and of a uniform colour, specimens from different nests varying a good deal in tint and shade. Some are pale blue, some a light greenish-blue; all are without speck, spot, or shading; they are rather pear-shaped as a rule, but nearly perfect ovals occur. In size they vary much, as the following measurements from the extremes out of nearly a hundred specimens show. Length from 1 inch to 1·187, breadth from ·75 to ·875, the average size being 1·093 by ·812. All the four species of Pastors that breed hereabouts lay eggs of the same character; yet those of each are clearly separable from those of the others, and each has its different style of nest-architecture. A fortnight ago, driving out one morning we found that a colony of the Bank-Mynah (*Acridotheres ginginianus*) had taken possession of some fresh excavations on the banks of a small stream. The excavation was about ten feet deep; and in its face, in a band of softer and more sandy earth than the rest, about one foot below the surface of the ground, these Mynahs had bored innumerable holes. They had taken no notice of the workmen—who had been continuously employed within a few yards of them, and informed us that the Mynahs had first made their appearance there only a month previously. On digging into the bank, we found the holes all connected with each other in one place or another, so that apparently every Mynah could get into or out from its nest by any one of the hundred and odd holes in the face of the excavation. The holes averaged about 3 inches in diameter, and twisted and turned up and down, right and left, in a wonderful manner. Each hole terminated in a more or less well-marked bulb (if I may use the term) or egg-chamber, situated from 4 to 7 feet from the face of the bank. The egg-chamber was floored with a loose nest of grass, a few feathers, and, in many instances, scraps of snake-skins. It is not easy to discover what induces so many birds that build in holes in banks to select, out of the infinite variety of things organic and inorganic, pieces of snake-skin for their nests. They are at best harsh unmanageable things, not so warm as feathers, which are ten times as numerous, nor so soft as cotton or old rags, which lie about broadcast, nor so cleanly as dry twigs and grass. Can it be that snakes have any repugnance to their "worn-out weeds," that they dislike these mementos of their fall*, and that birds breeding in holes into which snakes are likely to come, by instinct select these *exuviæ* as "scare-snakes"? In some of the nests we found three or four callow young; but in the majority of the terminal chambers were four more or less incubated eggs. These are fully as glossy as, and of a somewhat deeper blue (or greenish-blue, as the case may be) than those of the Pied Starling, and are moreover smaller; in length none exceeded 1·125 in., and some were only ·906 long, while in breadth they varied from ·812 to ·75; the average I take to be about 1·062 by ·781. I noticed that the tops of all the mud pillars (which had been left standing to measure the work by) had been drilled through and through by the Mynahs, obviously not for breeding-purposes, as not one of them contained the vestige of a nest, but either for amusement or to afford pleasant sitting-places for the birds not engaged in incubation. While we were robbing the nests, the whole colony kept screaming and flying in and out of these holes in the various pillar-tops in a very remarkable manner; and it may be that, after the fashion of Lapwings, they thought to lead us away from their eggs and induce a belief that their real homes were in the pillar-tops.

---

* When the snake," says an Arabic commentator, "tempted Adam, it was a winged animal. To punish its misdeeds the Almighty deprived it of wings, and condemned it thereafter to creep for ever on its belly, adding, as a perpetual reminder to it of its trespass, a command for it to cast its skin yearly."

After taking the Pied Pastors' eggs, we proceeded to look up the nests of two more nearly allied species, which my henchman had previously discovered. The first was one of that beautiful little bird the Pagoda-Mynah (*Temenuchus pagodarum*). In appearance this species pleases me more than any other member of the *Sturnidæ*, not excluding the gaudy African *Lamprotornithes* or the delicate *Pastor roseus*; there is something so essentially "gentlemanly" in the look of the little bird, he is always so exquisitely glossy, neat, and clean, and he always looks so perfectly independent and so thoroughly good-humoured. In a word, this Mynah is a special favourite of mine, and I really felt very loath to rifle the little homestead. But it is not very commonly found; so I ruthlessly sent a man up to the nest. This was neither more nor less than a nearly bare hole, worked by the birds into a decaying portion of the trunk of a sirris-tree; and three beautiful very pale blue eggs were soon brought to me thence, amidst the noisy expostulations of the parents, who kept fluttering round the plunderer in his descent, apparently half inclined to do battle for their treasures. The eggs are smaller than those of either of the two species previously noticed, and invariably of a much purer and paler blue, and of a more oval shape. In length they vary from ·937 in. to 1·031, and in breadth from ·687 to ·75. Like those of the other species they have a beautiful satiny gloss, and a close firm grain. As far as I have seen, the Pagoda-Mynah here always breeds in holes of trees; but the Common Mynah (*Acridotheres tristis*), three of whose nests we next proceeded to visit, breeds indifferently in ready-made holes of trees and of walls, making in them a loose nest, chiefly composed of feathers and straw, and laying from four to five blue eggs, larger and, as a rule, darker-coloured than those of any of the other three species.

We took fourteen eggs, varying from 1·25 in. to 1·062 in length, and from ·812 to ·937 in breadth, all more or less incubated; while in a fourth nest, in the wall of our verandah, we found four young ones. This was particularly noteworthy, because from my study-window the pair had been watched for the last month first laying the foundations of a future generation, then flitting in and out of the hole with straws and feathers, ever and anon clinging to the mouth of the aperture and laboriously dislodging some projecting point of mortar, then marching up and down on the ground, the male screeching out his harsh love-song, bowing and swelling out his throat all the while, and then rushing after and soundly thrashing any chance Crow (four times his weight at least) that inadvertently passed too near him. Never during the whole time had either bird been long absent, and both had been seen together at all hours. I made certain that they had not begun even to sit, and behold there were four fine young ones, a full week old, in the nest! Clearly these birds are not close sitters down here; but I well remember a pair at Mussoorie, some 6000 feet above the level of the sea, the most exemplary parents, one or other being on the eggs at all hours of the day and night. The morning sun beats full upon the walls, in the inner side of which the entrance to the nest is; the nest itself is within four inches of the exterior surface, and at 11 o'clock the thermometer gave 98° as its temperature. I have often observed in the Terns (*Sterna javanica*, *Seena aurantia*, and *Rhynchops albicollis*) and Pratincoles (*Glareola lactea*), which lay their eggs on the bare white glittering river-sands, that so long as the sun is high and the sand hot, they rarely sit upon their eggs, though one or the other of the parents constantly remains beside or hovers near or over them; but in the early morning, on somewhat cold and cloudy days, and as the night draws on they are all close sitters. I suspect that instinct teaches the birds that when the natural temperature of the nest reaches a certain point, any addition of their body-heat is unnecessary; and this may explain why, during the hot days (when we alone noticed them), in this very hot hole, the Mynahs spent so little of their time in the nest while the process of hatching was going on.

One more piece of good luck yet remained for us. For weeks

I had known that our smallest Dove, the beautiful little *Turtur humilis,* was sitting. Everywhere the males were to be seen busy on the grass, but not a single lady was visible. Obviously the "white kid" was on the knocker, if only one could find the house; but this had fairly puzzled us. Just as I was entering the bungalow and taking a last loving glance at the fair face of nature, so soon to be hidden from me by dingy rooms and sallow faces of disputatious counsel, just as I was drinking in the merry song of the Bulbul, soon to be drowned in the monotonous and everlasting pleadings purposing to show cause for and against everything in creation, I distinctly saw a female of the species fly down to her mate off the extremity of one of the lower branches of a huge patriarchal mango-tree. My court was to open at 10, and a great case (all about nothing, by the way, simply a vent to the feelings of two irascible bankers, who were too fat to turn out and fight out their mutual antipathies like men) was to come on—9 o'clock had struck, I had breakfast to get, and I make it a rule as Judge (new brooms always sweep clean, my friends say) to be in my seat by the last stroke of the hour; nevertheless I ran off to the tree and began to scrutinize the branch. After a minute I saw the eggs, two in number, exactly over my head, and apparently suspended by only a few cross threads. I got a high pair of steps, and mounted to the nest. It was a tiny network of grass-stems, so slightly put together that, as just mentioned, the eggs were clearly visible from below. How eggs could be hatched in such a situation I am at a loss to understand. The slightest storm (and we have had several such lately) would, I should fancy, have flung the eggs far away; but there they were, fresh and unsullied. They were considerably smaller than those of our other common Doves (*Turtur suratensis, T. cambayensis,* or *T. risorius*), and distinguishable from the eggs of these species by a very faint creamy tinge, scarcely noticeable, except by contrast with those of the others. Taken alone, you would say they were pure white; placed beside the others, you would instantly notice in them a very faint ivory-like tint altogether wanting in the rest. These eggs measured 1 inch in length by ·75 and ·812 in. in breadth. Thus, after a four hours' journey round our gardens, my companion and I returned well pleased with our excursion, and with 126 eggs belonging to 13 different species, some of them treasures in their way.

How the time flies! The great bankers' cases, double cross-actions, with heaven only knows how many reserved pleas, have come and gone, and the worthy gentlemen have, to the intense disgust of their respective counsel and attorneys, been induced by "the presence" (your humble servant) to cease fighting about and spending their substance on nothing, and have mutually made all the little concessions necessary, and signed a full and complete quittance and release so thoroughgoing and simple that I will trouble the sharpest of our attorneys to get up any new case out of the old material; and I, after twelve hours on the bench, have sat far into the night, growing less and less tired every hour, scribbling this story of our morning's birds'-nesting, hoping that, perhaps, some desk-tied ornithologist like myself, "seeing, may take heart again."

II.—*The Bird-Stations of the Outer Hebrides.* By HENRY JOHN ELWES, Lieut. and Capt. Scots Fusilier Guards, F.Z.S.

I BELIEVE that no part of Great Britain is so interesting, and at the same time so little known to ornithologists in general, as the Outer Hebrides, or the "Long Island," as they are called; for with the exception of the late John Macgillivray, who spent the summer of 1840 there*, and of the late Sir William Milner, who visited St. Kilda and Harris in 1847†, no one, so far as I know, has, within the present century, published any notice of the birds of those most interesting islands.

Mr. Robert Gray, of Glasgow, however, has for several years been accumulating notes and observations on the ornithology of the West Highlands, and, it is to be hoped, will shortly publish a work which cannot fail to be highly valued by all who take an interest in the natural history of our own country.

---

* "Notes on the Zoology of the Outer Hebrides. By John Macgillivray." Ann. & Mag. Nat. Hist. viii. pp. 7–16.

† "Some Account of the People of St. Kilda, and of the Birds of the Outer Hebrides. By W. M. E. Milner," Zoologist, pp. 2054–2062.

The late Professor William Macgillivray, though he resided some time in Harris, where he, in his younger days, was parish schoolmaster, does not seem to have made so good a use of his opportunities as might have been expected; for he does not mention some of the most interesting birds which are found there, and, though living for some years in sight of St. Kilda, never paid a visit to that extraordinary island. This apparent negligence on the part of our countrymen may be accounted for by the unusual difficulty of travelling among these islands; whilst St. Kilda, though not more than a hundred and twenty miles from the mainland of Scotland, is surrounded by such a stormy and dangerous sea, that it is very rarely visited, except by a smack which goes annually from Skye to bring away the produce of the island. I was very anxious to investigate some of John Macgillivray's statements with regard to the birds of the Hebrides, as, though they have been generally received without doubt, I could not help thinking that he must have been mistaken in one or two points.

First, as to the breeding of the Pink-footed Goose, which he stated to be of common occurrence on the small islands in the Sound of Harris. To mistake one species of Wild Goose for another is not so difficult, as is shown by the fact that even so good an ornithologist as Selby had previously been in error on this subject, having supposed the Goose he found breeding in Sutherland to be the Bean-Goose; and William Macgillivray had also called the Goose of Harris the Bean-Goose*.

When John Macgillivray wrote his paper, he was not more than one-and-twenty years of age, and no doubt was but imperfectly acquainted with the distinctions between the different species of grey Geese. Now, as *Anser brachyrhynchus* had only been recognized by British ornithologists as a new species a short time before†, he may very easily have fallen into error about it, more particularly as he does not say that he obtained specimens of the bird.

---

* *Cf.* Ibis, 1865, p. 441.

† The distinctness of this species was first established by Baillon, in 1833 (Mém. Soc. d'émulat. Abbeville, p. 74). Six years afterwards Mr. Bartlett described it as new, under the name of *A. phœnicopus* (P. Z. S. 1839, p. 3); but later in the same year Baillon (P. Z. S. 1839, p. 124) identified the bird described by Mr. Bartlett with his own. Yarrell soon after included it in his work (Br. B. iii. p. 64, part xxvii. November 1841).

I think that there can be little doubt that the only Goose which breeds in any part of Scotland is the Greylag (*Anser erus*), which is found in many parts of Sutherland, Rosshire, and even so far south as Jura, though in winter it is not so common as the Bean and White-fronted Goose. I saw a considerable number of wild Geese during the past summer in different parts of the "Long Island," and have not the least doubt that they were all *Anser ferus*, as the light bluish-grey shoulders form such a conspicuous mark that I do not think any one who knew it could mistake an adult bird.

The best evidence, however, in favour of this is that of a gentleman, Mr. J. Macdonald of Scolpig, who has resided all his life in these islands, where it is a common custom to rear Geese from eggs laid by wild birds. He assures me that none of these eggs have ever produced any but pure Greylags, with the nail of the bill *white*.

The greater number of the Geese I saw were not breeding, and remained in pairs or flocks all May, when I saw as many as thirty together. These could not have been all Ganders, as the male Goose remains near his mate when sitting, and helps her to bring up the young ones, which are all hatched by the end of May. When the young brood is pursued by a boat, the mother sinks her body very low in the water, and swims away with the Goslings, whilst the Gander flies round with loud cacklings.

The Goosander (*Mergus castor*) is another bird which was stated by John Macgillivray to breed in the Long Island; but I have no doubt whatever that he was mistaken in this case also, and was probably led into the error by the different stages of plumage of the Merganser (*Mergus serrator*), which is very common all over the West Highlands. I took the greatest pains to discover the Goosander, and explored in a canoe, which I took on purpose, every loch and arm of the sea where it was likely to be found, examining with a telescope every bird about which I had any doubt; and as I remained two months in the "Long Island," I hardly think the species could have escaped my observation if it had been there.

I have been several times shown eggs said to be those of the Goosander; but they never had that creamy whiteness which its eggs from Scandinavia always have; and I never saw a specimen of the bird killed in the Hebrides, though no doubt they occur sometimes in winter.

There are several rocks and islets on the north and west coast of Scotland which are interesting to the naturalist on account of the myriads of sea-fowl by which they are frequented; and as they are almost unknown, except to the fishermen of the neighbouring coasts, it will be as well to mention them.

First are two rocks lying about forty miles west of Stromness in Orkney, which are marked in the maps as Stack Island and Sule Island, but called by the Orkney men the Stack and Skerry. The Stack is a high rock four miles south-west of the Skerry, and is the breeding-place of a large colony of Gannets (*Sula bassana*). It is sometimes confounded with another Suleskerry, sixty miles west of it, which I shall presently describe. The Stack and Skerry are very seldom visited, owing to their distance and the difficulty of landing. Besides the Gannets, there are great numbers of the common rock-birds; and on the Skerry, seals are very numerous in calm weather.

Rona is an island about three-quarters of a mile long, lying sixty miles north-north-east of the Butt of Lewis, and is now uninhabited, though it was tenanted in former days by five or six families, whose existence must have been far more wretched and lonely than that of the St. Kildians. It is surrounded by cliffs about three hundred feet high, and is pastured by two hundred sheep belonging to a farm in Lewis. I was unable to visit this isle, as no boatmen could be persuaded to risk the danger of the voyage except for a larger sum than I was disposed to give. I do not think any birds would be found there except the common sorts, as I inquired particularly about them from the inhabitants of Ness, who go there every year to fleece the sheep.

Ten miles west of Rona is Suleskeir, which is erroneously named in most maps North Barra; and on this rock it has been conjectured that the Great Auk might formerly have bred. I think, however, that if it had done so, it would have been mentioned by Martin or Sir George Mackenzie, of Tarbat, who gave an account of Rona and Hirta to Sir R. Sibbald, and was, as well as Martin, acquainted with the Great Auk.

Donald Monro, High Dean of the Isles, who wrote a 'Description of the Hybrides' in 1594, gives an account of Suleskeir, in which is the earliest mention of the Eider-Duck in Great Britain that I know of. He says, "Be sexteen myle of the sea to this ile [Ronay], towards the west, lyes ane ile callit Suilskeray, ane myle lang, without grasse or hedder, with highe blacke craigs, and blacke fouge thereupon part of them. This ile is full of wylde foulis, and quhen foulis hes ther birdes, men out of the parochin of Nesse in Lewis use to sail ther, and to stay ther seven or aught dayes, and to fetch hame with them ther boitt full of dray wyld foulis, with wyld foulis fedders. In this ile ther haunts ane kind of foule callit the colk*, little lesse nor a guise, quha comes in the *ver* to the land to lay hir eggis, and to clecke hir birdes quhill she bringe them to perfytness, and at that time hir fleiche of fedderis falleth of her all hailly, and she sayles to the mayne sea again, and comes never to land quhill the zier end againe, and then she comes with hir new fleiche of fedderis. This fleiche that she leaves zierly upon hir nest hes nae pens in the fedderis, nor nae kind of hard thinge in them that may be felt or graipit, bot utter fyne downes."†

This rock is still visited annually by a boat from Ness, which goes in September, for the sake of the down and feathers of the young Gannets, at that time nearly ready to fly. Several thousands are usually killed, and are considered very good eating, as they are extremely fat and as large as the old ones.

The Shiant Isles are a small group lying in the Minch, about six miles from the coast of Lewis. They are frequented in summer by immense numbers of sea-birds, especially Puffins (*Fratercula arctica*) and Kittiwakes (*Rissa tridactyla*), with which two species the sea was covered for more than a mile when I passed the islands in the beginning of July. There is a celebrated eyrie of the White-tailed Eagle (*Haliaetus albicilla*) here, which has been used from time immemorial, and is mentioned by Martin, who wrote nearly two hundred years ago. I think it is as perfectly inaccessible as any nest can be, owing to the way in which the rock overhangs, and, if the birds are not destroyed, will remain in use for centuries.

---

* "Colk" is the Gaelic name now used in Lewis and Harris for the Eider.

† 'Miscellanea Scotica.' Glasgow: 1818, vol. ii. p. 153, 12mo.

The Flannan Isles are a group of six * small islets, about twenty miles west of Uig in Lewis, and form another favourite resort of sea-birds in the breeding-season, especially Puffins and Eiders. The Gannet, however, does not breed here, as is stated in some works.

Haskeir is a small rock about twelve miles west of North Uist; and on it I found a large colony of *Sterna arctica* breeding, though at a considerable distance from their feeding-grounds. One of the smaller rocks near it is the resort of all the Cormorants for many miles, which are probably attracted by the solitude of the place. I found that many of their nests contained fresh eggs in July, though no one had landed there for some months; and as there were many young ones nearly fledged, I presume they occasionally rear two broods. Haskeir is the principal resort of the great seals (*Halichœrus griseus*), which breed there in October and November, and were formerly killed with clubs, every year, as they lay on the rock with their young ones. This wholesale slaughter, to which the men of Uist looked forward with great eagerness, has now been stopped by the proprietor of that island, Sir John Orde, as the seals were in danger of being totally exterminated, and it is almost the only place where the species breeds. I noticed here that none of the nests of *Sterna arctica* contained more than two eggs, which was also the case in other places I visited, while *Sterna fluviatilis*, which is also common in the Hebrides, usually lays three eggs.

South of Haskeir there is no great breeding-place for sea-birds, except the Isles of Barra, which are at the extreme south of the Outer Hebrides. Mingalay and Berneray, which are the two best worth seeing, surpass by far any place in Great Britain, except St. Kilda, both in the magnificence of their rock scenery, and in the number of birds by which they are inhabited.

---

* Though another name for this cluster of rocks is the "*Seven* Hunters," there are only six considerable ones.

In Berneray (or Barra Head, as it is generally called, to distinguish it from the numerous other islands of the same name) I had the good fortune to stay for four days in the height of the breeding-season; and as the only account of the place ever published, so far as I know, is a short notice of it by Professor Magillivray (Br. B. v. p. 351), a few more words about it may perhaps be interesting.

The cliffs which form the south coast of the island culminate in a point at the south-west, on the extreme edge of which is built the lighthouse, at an elevation of nearly seven hundred feet. On both sides of the lighthouse is a deep chasm, reaching down to the sea; and the whole of these rocks, for more than a mile, are as thickly crowded with sea-birds as they can well be.

It was the grandest sight I ever experienced, to look out of the window of the lighthouse on a very stormy day and see oneself hanging, as it were, over the ocean, surrounded on three sides by a fearful chasm, in which the air was so thickly crowded with birds as to produce the appearance of a heavy snowstorm; whilst the cries of these myriads, mingled with the roar of the ocean and the howling of the tremendous gusts of wind coming up from below as if forced through a blast-pipe, made it almost impossible to hear a person speak.

The most abundant species were the Puffin, Razorbill, Guillemot, and Kittiwake, which I have named in the order in which they tenanted the rocks, the Puffins making their burrows from the top to about halfway down, whilst the Guillemots and Kittiwakes crowded on ledges almost within reach of the spray. There are only three families on Berneray besides the lighthouse-keepers; and though they do not look on birds with the same interest as the St.-Kildians do, yet they kill a great number as food for themselves and the crews of the boats which come from Islay to fish for cod and ling.

Their favourite method of fowling is quite different from that pursued anywhere else, and is highly successful, as I have known a man get six hundred sea-birds in six or eight hours. On a very windy day he climbs about halfway down the cliff, and seats himself firmly on a projecting point of rock, armed with a pole resting, end downwards, across the thigh. As the birds fly backwards and forwards they are driven by the wind within a few feet of his seat, and are knocked off their balance by an upward blow of the pole. When this is properly done the neck is broken, and the birds fall, with the force of the wind, almost into the fowler's lap; but they often recover themselves and fly away. Razorbills and Puffins form the great proportion of the bag; but there are also a few Guillemots killed in this way, though they do not come so close as the others, and the Kittiwakes keep far below. I sat several times with a man who was killing birds in this way, and counted, as well as possible, the number of Ringed Guillemots which passed by. I found that they were in the proportion of about one to ten or twelve, which agrees with the observations of others on Handa Island and Ailsa Craig. I took several eggs, on which I actually saw a Ringed bird sitting, and found they vary as much as the others, though more were marked with streaks than with blotches. I found considerable difference in the size of the Puffins here, one of the largest of which had a beak so big that at first it made me almost doubt whether *Fratercula glacialis* could be a good species, more especially when I found it was fully as large as a specimen from Grimsey Island, near Iceland, kindly lent me by Mr. Tristram. All my doubts, however, were dispelled when I saw two specimens brought back from Spitsbergen by a brother-officer this summer, which were at least a fourth larger than either of the others.

One day I crossed over the Sound to Mingalay, where a landing is by no means easy, owing to the tremendous sea which rises in the narrow channel separating the two islands. To give some idea of the height to which the waves rise in winter, I may say that a green sea lately came right over an island in the Sound, which looked as if it must be nearly one hundred feet high, washing away all the sheep on it, though they had hitherto been considered perfectly safe. On the west side of Mingalay the cliffs are even more stupendous than at Barra Head, rising in one place to over eight hundred feet, and are so smooth and perpendicular that even the Kittiwakes could hardly find a resting-place. The same birds are found here as in Berneray, with the addition of the Stormy and Fork-tailed Petrels (*Procellaria pelagica* and *P. leachi*), a few of which breed in holes and cracks in the dry peat on the top of the cliffs. I did not find any eggs, but have no doubt that they do breed, as the natives distinguished the latter species by its forked tail, calling it "Gobhlan-goidhe," which expresses that peculiarity in Gaelic, and is used for the Swallow in some parts of the Highlands. We found the names of birds here, as at St. Kilda, very different from those used in other islands, and, on returning to the village of Mingalay, took them down from an old man, who had in his day been one of the best fowlers in the island. The Razorbill is called "Dubheanach," the Guillemot "Langaidh," the old Kittiwake "Crahoileag," and the young one (which is a favorite dish) is called "Seaigire," the Stormy Petrel is called "Amhlaig," and the Manx Shearwater "Scraib." This bird was formerly very common, and the young ones, which were called "Fachach," were so highly esteemed that a barrel of them formed part of the rent paid by each crofter in Mingalay to the Macneills of Barra. About a hundred years ago, however, the Puffins, which before were not numerous, began to increase very much, and drove the Shearwaters from the holes which they occupied in the cliffs; and now they have completely supplanted them, so that only a few pairs of Shearwaters are left in the island of Pabbay, which is next to Mingalay. The Shearwater seems to be on the decrease in most of its other breeding-places, though I have never heard any reason assigned for the circumstance. We found a few pairs of Black Guillemots breeding in the low caves and rocks of Mingalay and Berneray; but the eggs are difficult to get at. So far as I have seen, they are always two in number, and are placed in deep cracks and holes, but never in high cliffs, like those of the allied species.

To pay a visit to St. Kilda (or Hirta, as it is called by the natives) was one of the principal objects of my tour this summer, as this extraordinary isle, which is more celebrated for its birds than any other place in Great Britain, had not been visited by any naturalist for twenty years, and, indeed, is as little known to most people as if it were an island in the Pacific, instead of a part of our own country.

It is not the distance which makes St. Kilda so difficult of access (it is not more, as I have already said, than sixty miles from Harris) ; but the want of a good anchorage, and the never-ceasing swell which beats on its precipitous shore, even in the calmest weather, form such serious impediments to effecting a landing, that, in many seasons, it would be impossible to get there before the middle or end of June.

An intending visitor to St. Kilda must take his choice of two evils :—either to go in a small boat, which, on his arrival, can be hauled up on the rocks, though most people would hardly venture three-score miles into the Atlantic in such a craft; or to go in a larger vessel, which can lie in the bay at anchor so long as the wind is light, but would be obliged to put to sea immediately if the weather became bad, as the anchorage is very exposed and dangerous. I had made arrangements for a smack to take me there; but the spring and summer of 1868 were so unusually stormy that I should have failed in the expedition if it had not been for the kindness of Capt. Bell, of H.M.S. 'Harpy,' a paddle-steamer, which was going to see how the St.-Kildians were faring, since they had been cut off from communication with the other islands for nearly nine months.

About one o'clock, A.M., on the 22nd of May, the 'Harpy' got under way from the Sound of Taransay, and, passing the Islet of Gasgeir, which is frequented by numbers of the Great Seal, arrived about nine pretty close under the cliffs of Boreray, which is five miles north of St. Kilda itself. As we pitched over the swells which rolled in from the west, long strings of Gannets kept constantly passing us on their way to the Minch. They have to travel in this way from fifty to a hundred miles every day to their feeding-ground, as the herrings do not rise near the surface of the water until they get inside the "Long Island." Much of the seaweed they use in their nests is also brought in the same manner, as the rocks of Boreray do not afford sufficient for such multitudes of birds as breed there*.

---

* The insufficiency of material induces the Gannets to plunder each other, and Martin quaintly describes an instance he witnessed :—"One of

The Gannets do not breed on the Island of St. Kilda at all, but only on Boreray and the adjacent rocks, called Stack-an-Armin and Stack-Lii. These are two almost perpendicular stacks, of great height, with flattish tops, which are so crowded with Gannets that at a distance they look as if covered with snow. The ascent of these rocks would be impossible to any one but a St.-Kildian; and even to him it is a matter of great difficulty, and can only be effected in the calmest weather. Then a boat is rowed as near as they dare go, and the most active man, jumping out with a rope, scrambles up a short distance and makes it fast to an iron hook, which was fixed in the rock by some of the ancient inhabitants, and without which it would now be impossible to ascend. Four or five of the best climbers then help each other up to the top, where they kill as many of the young Gannets as are required, and throw them into the sea. This generally takes place in September, when the young are very fat, and heavier than the old birds. They are called "Guga" by the natives, whilst the old ones have the same name (Súlair) as is used elsewhere, and expresses their extremely sharp sight*.

We were unable to land on Boreray, owing to the tremendous swell, and were obliged to content ourselves with a view of its immense crags from below. It is nearly as high as St. Kilda, being 1072 feet, and is even more precipitous, as there is hardly a level spot on it.

Until we actually entered the Bay of St. Kilda, very few birds, except Gannets and Gulls, were seen; and I should not have known that the Fulmars were there, until I came to the

---

them finding his Neighbour's Nest without the Fowl, lays hold on the Opportunity, and steals from it as much Grass as he could conveniently carry off, taking his flight towards the Ocean; from thence he presently returns, as if he made a foreign Purchase, but it does not pass for such. For the Owner had discovered the Fact, before the Thief had got out of sight, and too nimble for his Cunning, waits his Return, all armed with Fury, and engages him desperately; this bloody Battle was fought above our Heads, and proved fatal to the Thief, who fell dead so near our Boat, that our Men took him up, and presently dressed and eat him; which they reckoned as an Omen of good success in the Voyage."—*Voy. to St. Kilda*, p. 8.

* *Cf.* Ibis, 1866, pp. 13, 14.

cliffs where they breed, as they move about very little by day, being very nocturnal in their habits, like the other Petrels. They are very seldom seen on the coasts of the "Long Island," except after severe gales, or on dark foggy days, when they wander further away.

Soon after we entered the bay the people began to appear; and some of the men came off to the steamer in a large, clumsy boat, the only one, however, they have in which to go to the adjacent isles. Some years ago Capt. Otter, R.N., who was employed for many years in surveying the district, got them a large and well-found boat, hoping thereby to encourage deep-sea fishing, which is totally neglected on account of the bad weather which so often prevails. This boat, unfortunately, in attempting to cross to Harris, was lost on some rocks called the Glorigs of Taransay, and all her crew, including seven or eight of the best men in the island, were drowned. This sad accident, together with the casualties which take place every now and then from the carelessness of the climbers, has very much reduced the able-bodied population of the island; and there are not more than twenty men now who can pursue their occupations on the rocks. The population at present is about seventy, and is not increasing, as many of the children die of a disease which appears to be almost peculiar to the place, and commonly carries them off between the fifth and eighth days.

The men were all stout and hardy, well dressed in homespun cloth; and the younger ones were pleasant, merry fellows, and good companions during my stay, though none of them could speak a word of English.

On landing we were met by the minister, Mr. Mackay, who appeared very glad to see any one, as may well be imagined. Strange to say, he did not seem to take any interest in, or to know much about the birds, though he has been two years among people whose thoughts are more occupied by birds than anything else, and who depend principally on them for their living. I showed a picture of the Great Auk, which Mr. J. H. Gurney, jun., had kindly sent me, to the people, some of the oldest of whom appeared to recognize it, and said that it had not been seen for many years; but they were so excited by the arrival of strangers, that it was impossible to get them to say more about it; and though Mr. Mackay promised to take down any stories or information about the bird that he could collect, when they had leisure to think about it, he has not as yet sent me any. I do not think, however, that more than two or three examples are at all likely to have been seen in the last forty years, as Mr. Atkinson, of Newcastle, who went there in 1831, does not say a word about it in his paper*, beyond mentioning the name, and neither John Macgillivray, who visited the place in 1840, nor Sir W. Milner, says that any specimens had been recently procured. I believe that Bullock was also there about 1818; and as he had not long before met with the species in Orkney, there is little doubt he would have mentioned it to somebody if he had heard of any having been recently procured at St. Kilda.

I made every inquiry about this bird on the north and west coasts of Lewis, and showed pictures of it to the fishermen; but all agreed that nothing of the sort had ever been seen since they could remember. Indeed the only specimen of which we know for certain that has been seen in the present century is the one that Dr. Fleming had in 1821, which was captured alive by Mr. Maclellan, of Scalpa, somewhere off St. Kilda.

The first thing which strikes one on entering the houses here is the strong smell of Fulmar which pervades everything; though much of the filth which formerly filled them is now cleared out, yet they are by no means pleasant to one who is not accustomed to the smell.

Soon after landing, I started off with some of the best cragsmen to the cliffs at the north side of the island, which form the principal breeding-places of the Fulmar. On reaching the top of Conachan, which is the highest hill in the island, we came quite suddenly on a precipice which, according to the measurement of Capt. Otter, is no less than 1220 feet high. The whole of this immense face of rock was so crowded with birds, of which Fulmars and Puffins made up the greater number, that the sea was seen far below as if through a heavy snow-storm; indeed the birds which were flying in front of the cliff almost obscured the view for a little distance. All the ledges near the top were covered with short turf full of holes, in which the Fulmars were sitting on their eggs, with the head and part of the body exposed outside. In some cases they were quite concealed; but generally the soil was too thin for them to make more than a slight excavation. Thousands of Fulmars were flying backwards and forwards, with a soft owl-like flight; and though the air was full of them, hardly one ever came over the top of the cliff.

---

* Trans. Nat. Hist. Soc. Newcastle-upon-Tyne, 1832.

After having admired the scene for some time, I prepared to descend—an undertaking which, though dangerous from the looseness of the rock, was by no means so difficult as in some places which I had previously attempted. The usual way in which the ropes are managed is this: one is fastened under the arms, and paid out by the man above as the climber descends; and another is held or fastened to a stake above, and thrown over the cliff, so that the man who is descending can use it to take his weight off the other rope. In this way two men can help each other so as to get almost anywhere. The natives, from constant practice, have wonderful judgment in selecting the easiest places; and if they were always careful, an accident would be of rare occurrence: but the younger men are too fond of casting off the rope and trusting to their own skill; in this way three lives have been lost in the last few years. It also often happens that stones become dislodged and fall on the head of the climber, who may be unable to avoid them; and in this way I had a very narrow escape while descending the cliffs on the south side of the island on another occasion.

On arriving at the first ledge, where the Fulmars were, I had no difficulty in collecting the eggs, which were laid in small holes amongst the stones, or in the turf, on a few bits of grass or stems of the sea-pink, which, however, were so slight as hardly to keep the egg from the bare ground. The birds were very tame, and sometimes allowed themselves to be caught with the hand. The eggs were quite fresh; and all that I took on this part of the cliff were distinctly marked with reddish-brown dots and freckles, which did not appear to have been produced by any foreign substance, as the shell was otherwise clean. I cannot account for these marks in any way, as all the eggs from other places were spotless.

After I had collected a few, I came up and got one of the natives to go down to show us his way of catching birds. He took a rod about ten feet long, with a horsehair noose at the end, and slipped this cleverly over the heads of the Fulmars, whose necks he then broke and tied them in bunches of five to the end of the rope. I asked him why he killed so many, as I only wanted a few; and he said that if the egg was taken it was best to catch the bird also, as she would lay no more that year.

The Fulmar when caught vomits from its mouth (and not from its nostrils, as is usually stated) nearly a wine-glassful of clear yellow oil, with minute green particles floating in it. This oil has a very strong smell, and when kept becomes of a dark red colour, like raspberry vinegar. The St.-Kildians collect a large quantity of this oil, by making the birds vomit it into the dried gullets of Solan Geese, which are hung on strings when full; and a good deal of grease is also obtained by boiling down the young Fulmars, which are one mass of fat.

All the Fulmars I caught on the nest were females; and I remarked that the eye is not yellow, as is generally stated in books, but black, or dark brown. The stomach is filled with an oily fluid, in which are the horny mandibles of some Cuttle-fish, and a greenish substance, which I believe is sorrel, as that plant grows in great abundance on the rocks, and, the people say, is probably taken by the birds to correct the oiliness of their diet. The feathers of the breast are unusually thick and close; and there was a bare hollow place on the stomach, of the same size and shape as the egg.

After remaining a time to admire the view, which alone would fully repay one for the journey to St. Kilda, I returned to the village laden with the spoils. The whole island is covered with little stone hovels, which are built partly as a protection for the sheep during the gales, and partly to dry the turf, which is used for burning, as there is no real peat in the island. The sheep are of a peculiar sort, not unlike those which were kept by the crofters in most of the Hebrides before the introduction of the improved breeds, and have very fine wool, which is sometimes of a light-brown dun colour. This sort, however, is not very common; and the wool is in great request, as the rent is paid principally in wool and feathers. The factor of the island, who lives in Skye, comes every year in June, and remains until August or September, taking away with him all the spare produce of the island; and as this is the only regular communication with the rest of the world, the people depend on him for everything which they cannot make themselves. The present proprietor, Mr. Macleod, is a very liberal landlord, and the condition of the islanders has improved immensely during the last thirty years, so that they are now much better housed and fed than most of the Hebridians.

After visiting a few of the houses, and examining all the objects of interest, I returned to the 'Harpy' to deposit my birds and eggs, and found most of the older men collected on board begging for tobacco, sugar, and other things, though they did not seem very anxious to give us anything in exchange.

Some of the man-of-war's men had been collecting eggs on shore; and this excited the indignation of the older men, who considered it in the light of stealing their property. After we had pacified them with some small presents of tobacco and sugar, I showed them the pictures in my 'Yarrell,' among others pointing out the Fork-tailed Petrel. This, however, they did not seem to distinguish by any peculiar name from the Stormy Petrel, which is common enough, and is here called "Assilag." The Petrels are too small to be of any use for food, and are probably not much seen by the natives, especially as they only come out at night; but the pictures of all the other birds which are found here were at once recognized, and the Gaelic names given. The Kittiwake, which is by far the most common of the *Laridæ*, is called "Ruideag;" the Guillemot, "Lamhaidh" (pronounced "Lavie"), and the Puffin, "Bougir," are also in countless numbers, and, as food, are esteemed next to the Fulmar and Gannet. The name "Fulmar," which is pronounced here as a word of three syllables, "Ful-a-mair," is the only case I know of, besides the Ptarmigan and Capercally, in which our common English name is taken from the Gaelic.

The Shearwater (*Puffinus anglorum*), which is here called "Scrapire," is by no means plentiful, and only breeds on Soay, where we were unable to land, owing to the high swell; but as

I was anxious to get some of the Petrels, we took the ship's boat and landed on Dun with some of the natives. This island, which forms the southern horn of the harbour, is the principal preserve of the Puffins, whose burrows cover the whole island, like a rabbit-warren. Immense numbers were sitting everywhere, flying up as we approached, and settling again behind us. They had only just begun laying; but I procured a few eggs, which, though quite fresh, were covered with dirt. A few Eiders were breeding here, though they are not numerous; and the down is never collected, as the young Gannets afford an abundant supply.

I expected to find the Petrels breeding near the top of the cliff; but none were at present visible, and I think it must have been too early in the year for eggs. There is no doubt, however, that the Fork-tailed Petrel does breed here, as I have seen eggs from St. Kilda, and Sir W. Milner procured the birds, though John Macgillivray, like myself, was disappointed in finding them. After searching for some time, I looked over a cliff and saw, far below me, a broad flat ledge on which hundreds of Fulmars were sitting among the stones. I descended with a rope we had brought from the 'Harpy,' as none of those the natives had were long enough. Two of the young men followed me, coming down hand over hand at a tremendous pace. As soon as the Fulmars were disturbed from their eggs, the Black-backed Gulls came swooping down, and carried them off in their beaks, much to the indignation of my companions, who hate the "Farspach" (as they call *Larus marinus*) with a deadly hatred, and practise all sorts of barbarities on them whenever they catch them, as they are terrible robbers of eggs. The young men seemed determined to have every Fulmar and every egg they could get, as they enjoyed the opportunity of harrying the rock, which belonged to some one else, and probably laid the blame of it on me afterwards.

All the cliffs here are divided among the inhabitants equally, and the boundaries are as carefully observed as if they were fields, so that no one can take eggs on the main island except from his own rock. Boreray, Soay and the Stacks are considered common property, and are harried occasionally by a party dispatched in the large boat for that purpose.

As it was now getting dark, and the wind rising fast, I thought it best to lose no time in getting on board again; for though I was very sorry to leave the place without visiting all the islands of the group, yet I did not wish to be left there a month or more, and the weather looked so threatening that Capt. Bell was very unwilling to remain longer. We had much difficulty in getting into the boat, owing to the increasing swell, and after arriving on board ship were obliged to take leave of the people and put to sea without loss of time. Before long it was blowing a gale of wind from the south-east, and the weather continued so bad for five weeks that no boat could possibly have landed; so I was obliged to content myself with what I had already seen, and leave a more thorough examination of the group to some future observer.

III.—*On some New Species of New-Zealand Birds.*

By Walter Buller, F.L.S., C.M.Z.S., &c.

Fam. CERTHIIDÆ.

1. Xenicus haasti, sp. nov.

Upper surface pale olivaceous-brown, darkest on the crown; tinged on the back and on the outer margin of the quills with olivaceous-green; wing-coverts black, forming a conspicuous triangular spot; under parts pale fulvous; bill and feet dark brown; irides yellow.

Length 3·5 in.; wing from flexure 2; tail ·75; tarsus 1; middle toe and claw 1; hind toe and claw 1; bill, along the ridge ·375, along the edge of lower mandible ·625.

In structure this species approaches *X. longipes*; but the claw of the hind toe is more strongly developed, exceeding the toe in length. It is an inhabitant of the Alpine heights of the South Island; and I have named it in honour of its discoverer, Dr. Julius Haast, F.R.S., who forwarded me specimens for examination.

Dr. Hector found it frequenting the stunted vegetation growing among the loose mountain débris in the interior of the Otago Province; and Mr. Buchanan, the artist to the Geological Survey, met with it on the Black Peak, at an elevation of 8000 feet. There, where the vegetation is reduced to a height of only a few inches, it was constantly to be seen, fluttering over the loose rocks, or upon the ground, in its assiduous search for minute insects and their larvæ. Dr. Haast has favoured me with the following interesting notes on its habits :—"It lives exclusively amongst the large taluses of débris high on the mountain-sides. Instead of flying away when frightened, or when stones are thrown at it, or even when shot at, it hides itself among the angular débris of which these large taluses are composed. We tried several times in vain to catch one alive by surrounding it and removing these blocks. It reminded me strongly of the habits and movements of the lizards which live in the same regions and in similar localities."

Fam. LUSCINIIDÆ.

2. Sphenœacus rufescens, sp. nov.

Upper parts, sides, and tail dark rufous-brown, brightest on the crown and hind neck; the feathers of the shoulders and sides centred with black. Quills dusky-black, margined with rufous-brown. Streak over the eye, throat, breast, and abdomen pale fawn-colour; sides of the head and ear-coverts marked with black, Bill light brown, with the ridge black; feet dark brown.

Length 7·25 in.; expanse 7; wing from flexure 2·5; tail 4·25; tarsus 1; middle toe and claw ·875; hind toe and claw ·75; bill, along the ridge ·5, along the edge of the lower mandible ·625.

This species is larger than *S. punctatus*, more strongly built, and of handsomer plumage. The specimen from which the description is taken was forwarded to me by Mr. Charles Traill, a gentleman greatly devoted to conchology. He obtained it on a small rocky isle, a satellite of Chatham Island, during an expedition there in pursuit of his favourite science, but was unable to give me any information respecting its habits or economy, though he stated that he observed it flitting about among the grass and stunted vegetation, and succeeded in knocking it over with a stone.

Fam. TURDIDÆ.

3. **Turnagra hectori***, sp. nov.

Upper surface olivaceous-brown; tail and coverts bright rufous, with an olivaceous tinge on the two middle rectrices; throat pure white; breast and abdomen ashy-grey, darkest on the former; abdomen and under tail-coverts tinged with yellow; sides olivaceous-brown, washed with yellow. Bill and feet dark brown; irides yellow.

Length 11 in.; wing from flexure 5·25; tail 5; tarsus 1·25; middle toe and claw 1·25; hind toe and claw 1; bill, along the ridge ·875, along the edge of lower mandible, 1.

I have honoured this fine species with the name of my esteemed friend Dr. James Hector, F.R.S., Director of Geological Surveys, who has done much to advance the cause of science in New Zealand.

It differs from *T. crassirostris*, not only in plumage, but in its superior size and more strongly-developed bill. Its notes also are far more varied and musical. Its range is confined to the North, while *T. crassirostris* is found only in the South Island. They are, in fact, the representatives of each other in the two islands, and furnish another example of a remarkable law in the local distribution of the birds of New Zealand, many of those inhabiting one island being represented by closely-allied forms in the other, each, however, being specifically distinct. Cook's Straits, a neck of sea only eighteen miles in width, completely divides the range of one set of species from that of the other.

Fam. PSITTACIDÆ.

4. **Platycercus alpinus**, sp. nov.

This Alpine form differs from its near ally, *Platycercus auriceps*, both in size and in the tints of its plumage. Our three species of *Platycercus* present a distinct gradation in size and colouring. In *P. pacificus* the frontal spot, ear-coverts, and thigh-spots are deep crimson, while the general plumage is dark green. In the smaller species, *P. auriceps,* the frontal band is crimson, and the vertex golden, while the general plumage is a warm yellowish-green. In *P. alpinus,* which is smaller again than the last-named species, the frontal band is orange, and the vertex pale yellow, while there is an absence of the yellow element in the plumage, which is of a cold pure green, much paler on the under parts. The thigh-spots moreover are much smaller than in *P. auriceps,* and are orpiment-orange instead of crimson. On comparing the bills of the two species the difference is very manifest, that of *P. alpinus* being fully one-third less than that of *P. auriceps.*

---

* [May not this species be identical with that described in 1865 by Professor Schlegel (Nederl. Tijdschr. voor de Dierk. iii. p. 190) under the name of *Otagon tanagra*?—Ed.]

Length 8·5 in.; wing from flexure 4·25; tail 4·5; tarsus ·625; longest fore toe and claw ·875; bill, following curvature ·5, along edge of lower mandible ·25.

Dr. Haast, from whom I received several specimens of this bird, met with it in the forests of the Southern Alps, at an elevation of from 2000 to 2500 feet; and Mr. Travers sent me for examination other examples obtained by him in the high wooded country of the Nelson Province.

5. NESTOR OCCIDENTALIS, sp. nov.

Upper surface dark olivaceous-brown, tinged with yellow on the wing-coverts, each feather margined with dusky-black; feathers of the nape dull red, margined with yellow and black, and forming a narrow nuchal collar; uropygium, tail-coverts, and abdomen dark arterial-red, the feathers of the latter banded with a brighter tint; ear-coverts pale orpiment-orange; feathers projecting over the lower mandible tinged with red; throat, neck, and breast dark olivaceous-brown; lining of wings and axillary plumes bright scarlet, obscurely barred with black, and tipped with golden-yellow; quills and tail-feathers russet-brown, the former toothed with yellow on their inner vane; bill and feet dark olivaceous-gray.

Length 16·5 in.; wing from flexure 10·5; tail 6; tarsus 1; longest fore toe 2·25; longest hind toe 2·125; bill, following curvature 2·25, along edge of lower mandible 1·5.

Apart from the difference of plumage, this species is appreciably smaller than the common one, while the bill is more slender and has the upper mandible produced to a finer point.

Dr. Hector discovered this bird in the densely wooded country on the west coast of the South Island, and he generously gave me the only two specimens which his collection contained. These differ very slightly in the details of their colouring, and there is scarcely any perceptible difference in their size.

Fam. SCOLOPACIDÆ.

6. Gallinago pusilla, sp. nov.

Upper surface dark rufous-brown, variegated with irregular spots of fulvous and black. These markings are most conspicuous on the back and scapulars, the feathers on these parts being margined outwardly with pale fulvous, and marked with a large subterminal spot of black. Under parts fulvous. Sides of the head and breast with numerous spots of rufous brown, of which there is also an irregular line from the base of the upper mandible to the anterior edge of the eyes; sides and flanks variegated with crescentic marks of rufous brown. Bill greyish brown; feet pale brown.

Length 8 inches; expanse 13; wing from flexure 4; tail 1·5; tarsus ·75; middle toe and claw 1·125; hind toe and claw ·3125; bill, along the ridge 1·75, along the edge of lower mandible 1·5.

The example from which the description is taken was forwarded to me by Mr. Charles Traill, with the following note:—"Found on a small rocky islet off Chatham Island."

Fam. ANATIDÆ.

7. Anas gracilis, sp. nov.

Upper surface dusky-brown, with greenish reflections; the feathers of the back and scapulars narrowly margined with fulvous-white; the outer portion of the upper wing-coverts pure white, forming a conspicuous bar across the wing; the secondaries velvety black, narrowly tipped with fulvous, and a speculum of shining green occupying the outer vane of the three middle ones. Crown and nape blackish-brown, minutely marked with fulvous-white; throat, fore neck, and sides of the head fulvous white, the latter marked with sagittate spots of brown.

Under parts light fulvous-brown, with obscure spots of a darker shade, especially on the breast and sides, each feather having a broad central mark of blackish-brown. Throat and abdomen more or less tinged with bright ferruginous. Bill dark brown; outer portion of the lower mandible yellow. Feet pale brown.

♂ Length 17 inches; expanse 25·5; wing from flexure 8; tail 4; tarsus 1·25; middle toe and claw 1·75; bill, along the ridge 1·5, along the edge of lower mandible 1·75.

♀ Length 15·5 inches; expanse 23·5; wing from flexure 7·5; tail 3·5.

As will be apparent from the above measurements, the female is somewhat smaller than the male. The general tints of the plumage are paler; but in other respects the sexes are precisely alike.

The form of this Duck is remarkably slender and graceful, the contour of the body being almost as elongate as that of a Gannet. On dissection I found the skin very tender, and the flesh extremely delicate, with fat of a bright yellow colour.

I obtained my first specimens (male and female) in the Orona Stream, near its junction with the Manawatu River, in the Province of Wellington. I observed that on being disturbed from the marsh, where they were apparently feeding, they rose high in the air, and came down suddenly into the creek with a rapid, oblique, and rather awkward flight. On the water they kept near to each other, and I killed both at one shot. I afterwards saw a pair on the wing, in one of the freshwater lagoons of the Upper Manawatu, the white bar being very conspicuous; and more recently I obtained a fresh specimen from Hawke's-Bay Province*. The species is evidently rare.

---

* P.S. Oct. 3, 1868.—Referring to this species I have recently received the following interesting note from Dr. Haast:—"In a collection of Australian skins just arrived from South Australia, and collected by Mr. A. Fuller, there is a specimen of your *Anas gracilis.* I looked at once in 'Gould,' but could not find any mention of it; consequently this bird, so far as Australia also is concerned, is new to science. I compared the skins very carefully, and there is not the slightest difference; in fact it is almost impossible to say which is which. You can state this fact upon my authority."

Fam. LARIDÆ.

8. **Bruchigavia melanorhyncha**, sp. nov.

Pure white; back and upper surface of wings delicate ash-grey. First four primaries white, variegated with black, the first primary narrowly margined on its outer and marked diagonally on its inner vane; on the next the black increases, and forms a broad subterminal bar, which is enlarged on the two next, and decreases on the two succeeding ones, all being tipped with white. The fifth quill, which is ashy, has merely a subterminal interrupted bar of black. Bill black; feet blackish-brown.

Length 14 inches; wing from flexure 11·5; tail 5; tarsus 1·5; middle toe and claw 1·75; bill, along the ridge 1·5, along the edge of lower mandible 1·75.

This bird may be readily distinguished from *B. scopulina* by its black bill and dark feet, those parts being blood-red in the other—and, on near inspection, by the different character of the markings on the primaries. All my specimens were obtained in the South Island.

Wanganui, New Zealand,
June 10, 1868.

IV.—*Notes on Birds observed near Nynee Tal and Almorah, from April to June* 1868. By W. E. Brooks, C.E.

2[*]. **Otogyps calvus.** I frequently noticed this Vulture both at Nynee Tal and Almorah. Other Vultures were seen by me, but I could not be sure of the species. As far as I could determine without shooting them, they were *Gyps fulvus*, *G. indicus*, and *G. bengalensis*, the latter being the most numerous.

6. **Neophron percnopterus.** Abundant, especially at Almorah; even at elevations up to 9000 feet the bird is frequently seen. I shot one or two which did not in any way differ from those of the plains.

The slight differences between the African bird and the Indian

---

[*] The numbers prefixed to the names of the species noticed correspond with those used in Dr. Jerdon's 'Birds of India'.

(*N. ginginianus*), pointed out by Mr. Blyth in 'The Ibis' for 1866 (pp. 233, 234), appear to me hardly sufficient to constitute separate species. I believe the difference to be merely the effect of climate, for a slight difference is generally to be observed in all birds common to different continents.

7. Gypaetus barbatus. This fine bird is not uncommon at Nynee Tal and Almorah, more numerous at the latter place than the former. I never found out where they breed; for the whole country abounds with fine cliffs, and to search for the nest would be hopeless work. Though apparently going so easily, the speed at which the bird flies is very great, and a distance of ten or twelve miles is passed in a few minutes. It has a habit of quartering the ground on a hill-side in search of its prey in a very systematic manner. The bird goes backwards and forwards, two or three miles at a time perhaps, and at each turn it goes considerably lower down, till by this means it searches the whole hill-side. I have noticed some of the Harriers (*Circi*) quarter their ground in a similar manner. While I was at Almorah a rabbit-yard was frequently visited by these birds, and rabbit after rabbit carried off. I only procured two specimens of the Læmmergeyer, though I had many shots. These birds appear to carry off more shot than even Eagles.

17. Tinnunculus alaudarius. Tolerably common, I saw a young bird taken from a nest near Almorah. The colours of the adult male do not appear to be so pure as those of the English bird. The grey of the head is darker, I think, and the chestnut of the back more dingy.

20. Hierax eutolmus. I saw this little Falcon two or three times flying swiftly by, but I did not succeed in getting a shot at it.

33. Nisaetus bonellii. Frequently seen, but not so common as it is in the plains. I saw a pair make a dash into a fowl-yard at Almorah, whence the male emerged with a fine young fowl in his talons, which he carried to the bottom of a small ravine and there began eating it. For a time the female, which had followed, contended with him for a share of the spoil,

but was obliged to retire. The ravine in which the robber was, was about 1000 feet below where I was, and I descended to the spot gun in hand. Being in the narrow ravine I arrived unperceived within ten yards of the bird, which looked suddenly up, turning upon me his keen angry yellow eye. He stared for nearly a minute at me, and then reluctantly flew down the ravine, leaving the remains of the fowl. At about forty yards he fell dead to my charge, which had done its work too well, cutting off the hooked portion of the bill. It was a very white-breasted specimen, the black lines being narrower than in any one I had previously shot. It was, therefore, not a very old bird, as the black markings on the breast of the young buff bird are very faint and narrow. This Eagle breeds in the plains in the Etawah district, the situation chosen being generally the high clay cliffs of the rivers Jumna and Chumbul. Two or three times I have known the nest to be built in a large tree. In the cliffs the nest was generally about twelve or fourteen feet from the top of the cliff, built of sticks and twigs, two or three feet in diameter, and lined with a few fresh green leaves, upon which the eggs were laid. Whether the green leaves are renewed from time to time, or not, I cannot tell. Other Eagles, *Haliaetus leucorhyphus* and *Aquila fulvescens*, also place fresh green leaves in their nests*. The eggs were usually two in number; but twice I found only one. Two were white, unmarked, but all the others sparingly blotched and spotted with light reddish-brown, sometimes intermixed with blotches of light reddish-grey. The largest egg measures 2·958 in. by 2·167 in., and the smallest 2·583 in. by 2·041. I have a pair of eggs out of the same nest—one plain white, the other well marked.

35. Limnaetus cristatellus. I shot one of these fine birds off the top of a blast-furnace, at the abandoned Ramgurgh ironworks.

48. Poliornis teesa. I only saw one of these birds, which I shot between Almorah and Binsur. It appears to be very rare in the hills.

---

* [The Golden Eagle does so likewise; see 'Ootheca Wolleyana,' pp. 22, 25, and 38.—Ed.]

56. MILVUS GOVINDA. Tolerably common both at Nynee Tal and Almorah, at both of which places it breeds about two months later than it does in the plains.

73. KETUPU FLAVIPES. I saw one of these birds, which had just been caught.

82. HIRUNDO RUSTICA. Common at Almorah, where it breeds. I never found the nest; but I shot a fully fledged young one.

84. HIRUNDO RUFICEPS. Tolerably common along the rocky streams in the valleys, where it breeds.

85. HIRUNDO DAURICA. Common both at Nynee Tal and Almorah, also at Binsur, which is twelve miles further north than Almorah. The hill-bird is rather larger than that of the plains, and the red colour on the upper tail-coverts is much lighter in colour, being almost white at the terminal portion of the tail-coverts; in other words, the hill-bird answers perfectly to the description of *H. daurica*, and the bird of the plains to that of *H. erythropygia*. I believe the slight difference to be merely the effect of climate; for in voice, habits, and mode of breeding, the birds are evidently the same. The nest is always shaped like half of a retort, fixed to the underside of an overhanging rock or cave, generally with only one entrance; but my friend Mr. Horne has given me an account of one fixed to one of the verandah-rafters of a house, where there were two entrances. In the hills I found the nest several times, sometimes in open exposed places, at other times where the rocks were overgrown with wood. The eggs mostly resemble those I took in the plains. In the plains the bird does not breed till the hot winds are over, end of June or beginning of July; but in the hills I found eggs nearly hatched in May. Others, at Binsur, Mr. Horne informs me, have only just laid in the middle of July. The hill-bird breeding in the verandahs of houses as well as in caves accords with the habit of the Chinese bird, the true *H. daurica**. A few days since, I observed a pair building on the underside of the arch of a bridge, a situation generally chosen by *H. ruficeps* when there is water under the bridge.

---

* See Mr. Swinhoe's remarks, Ibis, 1863, p. 256.

Only one bird of this species which I shot had the circular light markings on the under surface of the outer tail-feathers. If *H. senegalensis* has not the lower half of the under tail-coverts dark-coloured, as stated by Dr. Bree (B. Eur. ii. p. 176), it may be a distinct species. What the peculiarities of *H. melanocrissa* are, I have no means of finding out; but certainly I should say that *H. daurica, H. rufula,* and *H. erythropygia* are just one and the same bird, a little altered in size and colour by the effects of climate. I notice that the extent of the chestnut collar varies in individuals.

I noticed a white-rumped Martin at Nynee Tal, which I did not procure, also two brown Swifts, the larger of which was, perhaps, *Acanthylis caudacuta.*

100. CYPSELUS AFFINIS. Very common, both at Nynee Tal and Almorah. The eggs I took at Almorah, about the middle of May, are larger and finer than those taken in the plains.

147. PALÆORNIS ALEXANDRI. Tolerably common.

150. PALÆORNIS SCHISTICEPS. Very numerous at Nynee Tal.

154. PICUS HIMALAYANUS. One shot at Nynee Tal, and another at Binsur.

159. PICUS BRUNNEIFRONS. One shot at Binsur.

161. HYPOPICUS HYPERYTHRUS. One shot at Nynee Tal.

199. CUCULUS CANORUS. Common all over the district around Almorah, where the country is open. I have one egg, taken from a nest of *Pratincola indica* at Almorah, another from a nest of *Copsychus saularis.*

212. COCCYSTES MELANOLEUCUS. Seen a few times at Almorah.

214. EUDYNAMIS ORIENTALIS. Common at Almorah.

234. ARACHNECHTHRA ASIATICA. Seen occasionally in the valleys near Almorah. On the banks of a small river there, I found a nest of this bird being built in May. The bird lays in March in the plains.

238. DICÆUM MINIMUM. Two or three shot at Nynee Tal and Binsur.

243. Certhia himalayana. Shot at Nynee Tal and Binsur.

248. Sitta himalayensis. Common at Nynee Tal and Binsur.

254. Upupa epops. I frequently saw a Hoopoe at Almorah which must have been of this species.

257. Lanius erythronotus. Common at Almorah, where, from the middle to the end of May, I obtained several nests, which, with the eggs, resemble those taken in the plains; but the bird appears to be lighter in hue, and the bay colour much paler.

260. Lanius hardwickii. Frequently met with in the lower valleys, where it breeds about the middle of May. Both bird and its eggs are slightly larger than those from the plains.

273. Pericrocotus brevirostris. Seen several times in the well-wooded districts, where it was evidently breeding.

280. Dicrurus longicaudatus. This is the common Drongo of the hills, and may be easily distinguished from *D. macrocercus* by its much smaller size, and by having the reflections on the upper plumage much greener. The foot of the former is about half the size of that of the latter, and the under surface of the hill-bird is more of a dark smoke-grey than black. The bird of the plains, when mature, is pure black beneath, and the white spot at the gape is not always to be seen.

The nest is usually fixed on the upper surface of a thin horizontal branch, about fifteen to twenty feet from the ground, at its junction with another horizontal branch, the nest being partly imbedded in the fork of the two. It is composed of grass fibres and roots, and lined with finer grasses and a few hairs. It is broader and much shallower than that of *D. macrocercus*. Outside it is covered with spiders' webs and small bits of lichen. The eggs, which are laid from the middle to the end of May, are four in number, sometimes only three, and measure 1 inch by ·75 in., but vary much in size, shape, and colour. Some are buff, blotched with light reddish-brown and pale purple-grey; others are lighter buff (almost white, in fact), spotted and marked, more sparingly than the first-described, with the same two colours, but each of a darker tint; others are white, marked sparingly with spots and blotches of dark purple-brown and reddish-brown and intermixed with larger blotches of deep purple-grey, the markings principally forming a zone at the larger end; others, again, are pale purplish-white, spotted with dark and light purple-brown, intermixed with spots and blotches of purple-grey. The shape of the egg varies as much as the colouring, some being of a fine oval form, while others are quite pyriform.

288. Tchitrea paradisi. Common in the valleys about Almorah, seldom coming up to the elevation of the town itself. I have two males, shot off the nest, in the chestnut plumage. The nest is a neat cup-shaped one, fixed to a thin branch of a tree by means of fine grass and spiders' webs. It is composed of moss, fibres, and grass, and covered thickly outside with spiders' web. The internal diameter of the nest is about two inches; and it is lined with fine grass. The bottom of that now described rests on a small twig growing out of the thin branch to which it is bound. The eggs are three in number, measuring ·755 in. by ·625 in., buff, sparingly spotted with reddish-brown and purplish-grey, tending to form a zone at the larger end in nearly every instance. They are laid about the third week in May.

295. Cryptolopha cinereocapilla. Numerous at Nynee Tal and Almorah in April and beginning of May; after that time scarce, but I saw the bird occasionally near Nynee Tal and at Binsur. It was breeding; but where, I never discovered. I once saw the parents feeding their fully grown young.

301. Eumyias melanops. The nest is usually placed in a hole in a steep bank-side at a tree-root, or hole in the wall of some unfrequented building, under the rafters of the verandah of a dwelling-house, or under the eaves of a house-roof. Once I found one in a small niche inside a small building (some six feet square) which formed a cover over a well. The floor was water about three feet deep; and directly opposite the door was the small niche in the wall, about eight inches wide. Here the bird sat on its nest in full view of every native who came to draw water. The nest

is composed of moss and fine fibres, and lined with hair. The eggs are four in number, measuring ·75 in. by ·5 in., and in colour fleshy-white, clouded and finely mottled with pale reddish-brown at the large end, so as to resemble some light-coloured varieties of that of the English Redbreast. They are laid from the 11th to the middle of May.

310. MUSCICAPULA SUPERCILIARIS. Common at Nynee Tal and Binsur where wood was plentiful. The nest I never found, but I shot a fully fledged young bird, which was light brown, with numerous yellowish-white spots, principally on the upper surface. The female is of a plain brown with lighter under parts. This bird must breed early; for on the 3rd or 4th of June I saw fully fledged young. From the strict watch it keeps over an intruder, this bird is as difficult to deal with as the common Stone-Chat.

343. MYIOPHONUS TEMMINCKI. I saw this bird several times, generally in rocky mountain-torrents. Its nest I did not discover. The song is pretty and quite Thrush-like.

352. OREOCŒTES ERYTHROGASTER. Several times seen at Nynee Tal and Binsur, at both of which places it breeds. Mr. Horne found a nest at the latter, particulars of which I hope he will himself give to 'The Ibis.' The song of this bird is loud, sweet, and varied, hardly inferior to that of *Turdus musicus*.

353. OREOCŒTES CINCLORHYNCHUS. Common at Almorah, and also found in the more wooded districts at Nynee Tal and Binsur, though preferring somewhat open places. Its song is soft and mellow, but not varied and impassioned like that of the last species. Its note of alarm is very Chat-like, reminding one strongly of that of the Wheatear. The place for the Stone-Chat, I think, should be near the Thrushes.

On the 26th of May I shot a female of this species at Almorah, and close to where she fell was a nest in a hole of an old retaining wall overgrown with grass. For hours the place was watched, but no bird came near the partly incubated eggs. Her breast was bare, as if she had been sitting on eggs. The male I had also shot shortly before the female. The nest was very

Thrush-like in form, and was placed in just such a situation as would have been chosen by a Ring-Ouzel. It was composed of fine twigs, roots, and coarse grass, and lined with finer grass. The eggs were four in number, ·916 in. by ·625 in., of a pale buff or salmon-colour, finely mottled, principally at the larger end, with very pale reddish-brown. Though they are not Thrush-like in colouring, being more like those of a Redbreast, I cannot believe that they belong to any other bird *.

356. Geocichla unicolor. I shot two birds at Nynee Tal which must be of this species; but the bird is no "Ground-" Thrush, but a true *Turdus*, more closely allied to *T. iliacus* than to any other species, and should stand as *T. unicolor*. The song is a hurried one, delivered from the top branch of a tree, and somewhat resembles that of the English Missel-Thrush, not having much variety, and being often repeated. It is a restless bird, constantly flying from one tree to another during its song, and is shy and difficult of approach. One of my specimens is without spots, the other has a few faint brown ones on the upper part of the breast. They were breeding.

361. Merula boulboul. Tolerably numerous at Nynee Tal and Binsur and all well-wooded districts. I never found the nest myself; but Mr. Horne did at Bheem Tal and Nynee Tal. He tells me it was placed sometimes on a rock-side, Ring-Ouzel fashion, and sometimes in a low tree, composed principally of moss and lined with grass. Eggs four in number, 1·166 in. by ·833 in. Ground-colour greenish-white, blotched and spotted with reddish-brown, very closely resembling those of *T. torquatus* of England. This bird breeds in April and May. I shot full-sized young in June at Binsur.

405. Pomatorhinus erythrogenys. I saw this several times in thin jungle near Almorah, and shot one.

411. Garrulax albogularis. Tolerably common at Nynee Tal.

415. Trochalopterum erythrocephalum. Common both at Nynee Tal and Binsur. By imitating the call-note, which is

---

* [*Cf.* Ibis, 1866, p. 374.—Ed.]

a sort of whistle, I have had a dozen of these birds within shot of me at a time. Mr. Horne found the nest at Binsur, but the particulars I have not received.

425. Trochalopterum lineatum. Common everywhere. The nest was generally placed in a low tree or bush, where the foliage was thick, and was composed of grass, and lined with finer grass. The eggs are three in number, 1·083 in. by ·75 in., of a light greenish-blue, the tint being the same of those of *Acridotheres tristis*. They are laid in the first half of May.

444. Hypsipetes psaroides. The nest and eggs were found by Mr. Horne on the 27th of May, near Bheem Tal. The egg is white, spotted with dark and light brown and grey, showing much more of the greenish colour than other Bulbuls' eggs do. It measures ·925 in. by ·75 in.

458. Otocompsa leucogenys. I found this bird numerous at Almorah, and procured several nests between the beginning of May and June. They were placed in a bush or small tree, and were slightly built of fine grass, roots, and fibres. Eggs three in number, ·925 in. by ·583 in., purplish-white, speckled all over, but more thickly at the larger end, with spots and blotches of purple-brown and purplish-grey.

461. Pycnonotus pygæus. Common at the lower elevations where the country was open, and at Almorah. Nest and eggs the same as those of *O. leucogenys*, but the eggs generally a trifle smaller and more inclined to a reddish-purple tint. They are laid about the middle of May.

470. Oriolus kundoo. Common at Almorah. I have frequently found its nest and eggs in the plains. The former is a slight grass cup, suspended by the edges between the forks of a thin horizontal branch. The eggs are precisely like those of *O. galbula*.

475. Copsychus saularis. Common at Almorah and near all villages. The nest is formed under the eaves of houses, and in holes in trees; but the bird gives a decided preference to a dwelling-house. Like the English Redbreast, it is a most sociable bird, and appears to prefer the proximity of man. The

song is a most agreeable one, poured forth from the topmost spray of some tree for hours together, in an impassioned manner. It possesses considerable variety, but the same strain is repeated numbers of times before the bird changes to another. I sometimes thought that some of the musical ideas of the natives were derived from the song of this species; it is a great favourite with them as a cage-bird. The nest is formed of the materials described by Dr. Jerdon; but in the hills moss is freely used. Eggs generally five in number, ·925 in. by ·583 in., greenish-white, spotted and blotched, principally at the larger end, with reddish-brown, the markings being sometimes intermixed with blotches of purplish-grey, so as somewhat to resemble those of the English Blackbird's in miniature. They are laid about the middle of May. In one instance a Cuckoo's egg was found in the nest of this bird.

481. Pratincola caprata. Common on all open hill-sides. The song is pretty, and much superior to that of the next species. The nest is placed in a hole in the side of a low steep bank. In the plains I have always found the nest down disused wells, a small hole in the clayey side being chosen. It is composed of fine grass, roots, and fibres, and lined with hair. I have seen one thickly lined with human hair, the produce of some native hair-dresser's performance. The eggs are four or five in number, measuring ·708 in. by ·583 in., and are of a pale whitish-green, spotted and blotched with reddish brown, sometimes in a zone, near the larger end. They are the prettiest Saxicoline eggs I have seen, and are much more boldly marked than those of the next species. I found the bird sometimes breeding on open hill-sides, or slopes covered with stunted bushes; and what the situation of the nest could have been I do not know. The bird lays from the end of March or beginning of April to the end of May.

483. Pratincola indica. This is the commonest bird of the hills where the country is sparingly wooded or quite open. The specific name should be abandoned, as it does not in any respect differ from the European *P. rubicola*. Its notes and song, nest and eggs, are precisely the same. Out of a number I have shot,

I can select some which are exact types of the English species; others, the mature old males, attain to a finer and blacker plumage than that does, which may be the result of a climate more suitable to the bird. I sometimes shot quite a brown English-looking male from the nest. The extent of the white collar varies in every bird; so do the red of the breast and the black of the throat. From the large number of this species which I have had through my hands, I have no doubt of *P. indica* being nothing more than *P. rubicola* converted into a new species. The throat of the female I generally found to be pale brown, not white. Dr. Jerdon says, "The wing, too, is somewhat longer than in the European bird." Yarrell gives the length of the wing in the latter as "two inches and three quarters," Macgillivray "$2\frac{10\frac{1}{2}}{12}$" inches, Dr. Jerdon "$2\frac{3}{4}$;" the first and only bird which I now measure has the wing 2·625 in., or *shorter* than that of the English bird*. But slight difference in length of wing is no specific mark, any more than slight difference in extent or distribution or intensity of colour. All these vary much, even in birds of the same species, in the same country. Mr. Blyth (Ibis, 1867, p. 13) says, "The voice of *P. indica* is notably different from that of the European *P. rubicola*." With all deference to Mr. Blyth, who has, perhaps, done more for ornithology than almost any one, I must say that I find the notes and song of the Indian Stone-Chat the very same as those of the English bird; and many a day have I spent in the hearing of the English bird when trying to find its well-concealed nest. When in Scotland in 1865 I very often heard the Stone-Chat, and brought back with me to India a vivid recollection of its notes and song. However, to settle the matter beyond dispute, I shall send home some skins of *P. indica*, shot during the breeding-season at Almorah, and also some from the plains during the cold season. At Almorah the young of the first broods were fully fledged by the middle of April. In the hills, the cultivated land on the hill-sides is all terraced; and to keep up the earth, low retaining walls of dry rubble-stone are used. In course of time these low walls, generally only three or four feet high, become rather broken and overgrown with vegetation. It is in holes or hollows in these walls that the Stone-Chat delights to build, the situation of the nest being generally near the top of the wall. The nest is always more or less hidden by the plants which grow in all the crevices. It is generally composed of moss, grass, fibres, and fine roots, and lined with hairs and sometimes feathers—in fact, just the nest of the English Stone-Chat. The eggs are five in number, and in size and colour exactly resemble those of the English bird. They are laid from the end of March to June. In addition to the terraced hill-sides, the bird breeds on open uncultivated slopes where the ground is pretty well overgrown with stunted bushes which resemble the English blackthorn. In these places I never succeeded in finding the nest; for the birds watched me more successfully than I watched them, and found me out wherever I had hidden myself. I have no doubt, however, that in this sort of places, without any broken walls or banks, the situation would be on the ground at the bottom of a stunted bush a foot or eighteen inches high,—as in England we find the nest at the bottom of a whin-bush, and rather at one side of the bush, the entrance being from above, not from the side, as in the case of the Whin-Chat. The bush-covered land was well frequented by Stone-Chats; but the majority preferred the cultivated hill-sides. The eggs vary much in size, and are not so handsomely marked as some of the English eggs.

---

* [Mr. Jenyns, perhaps the most accurate in these matters of all writers on British ornithology, gives (Br. Vert. p. 121) the length "from the carpus to the end of the wing two inches six lines," *i. e.* 2·5 in., or less than Mr. Brooks's specimen.—Ed.]

486. Pratincola ferrea. I saw a few between Almorah and Nynee Tal, but did not succeed in shooting one.

517. Acrocephalus agricolus. I procured several specimens at Almorah in April and May, but apparently they had not begun to breed.

547. Suya criniger. Common on hill-sides where low bushes were numerous. One nest, found on the 19th of May, was suspended in a low bush, and was a very neat purse-shaped structure, with an opening near the top and rather at one side, composed of fine soft grass, of a kind which had dried green, in-

termixed with the down of plants, and lined with finer grass. The eggs were four in number, ·583 in. by ·458 in., white, speckled sparingly with light red, but having also a broad zone or ring of deeper reddish-brown very near the large end. This egg is one of the most peculiar and beautiful I have seen.

554. Phylloscopus tristis. This bird should, I think, be *P. rufus*; the description is exactly that of the English bird. I have shot many specimens in the plains, and often heard the song, which, as far as I remember, is exactly that of the Chiff-chaff. I shot one specimen near Almorah, and saw others.

560. Phylloscopus viridanus. I have ten or twelve specimens, shot near Almorah, which may be of this species; but Dr. Jerdon's descriptions of the *Phylloscopinæ* are so brief that identification is difficult. I wish he had carefully pointed out the distinguishing characters of these birds.

562. Phylloscopus indicus. Frequently seen at Almorah.

565. Reguloides superciliosus. Frequently seen on the way up from Kaleedoongy to Nynee Tal, in April, but I never met with the bird at Nynee Tal or at Almorah. It may breed on the Himalayan slopes before reaching Nynee Tal, or it may go much further north towards the snows. In the parts of Kumaon where I was, there were no dense pine-forests; and whether this bird goes to such places for the purpose of breeding, or not, remains to be decided. I was much disappointed in seeing so little of this interesting bird when in the hills. I hope some one else may be more fortunate, and discover the nest and eggs. I shoot many in the plains in the cold season.

572. Abrornis xanthoschistus. One of the commonest birds wherever there are trees. I found one nest only at Almorah, on the 15th of May; it was placed on the ground near the foot of a small bush on a sloping bank overgrown with grass and bushes, and was a large ball-shaped structure, composed of very coarse grass, moss, roots, and wool, lined with hair and wool. There were four, pure white, glossy eggs in the nest, ·583 in. by ·416 in., much pointed at the small end. I shot the bird off the nest. Fully-grown young ones of this species were fre-

quently met with, even before the discovery of the above-described nest.

583. Sylvia curruca. This bird, so common in the plains in the cold weather, I saw several times at Almorah, where, I think, it breeds.

584. Henicurus maculatus. Common on all mountain-streams. Near Bheem Tal, on the 27th of May, Mr. Horne found the nest placed in the side of a rocky watercourse. It was large and composed of moss and fibres. The eggs are three or four in number, 1 inch by ·625 in., white, with a faint shade of green, speckled rather sparingly with rusty brown.

I saw some Yellow Wagtails (*Budytes*) at Nynee Tal, but did not determine the species. This was in April; and on my return to that place in June they were no longer to be found.

596. Pipastes agilis. Frequently seen in April and May; but I think it went further north to breed.

604. Agrodroma sordida. Breeds at Almorah and other places near, on lonely unfrequented hill-sides. I saw the old birds feeding their fully-grown young. The male has a monotonous song, much inferior to that of the English Titlark.

606. Heterura sylvana. Very common on all the open hill-sides. In its habits it is quite a Rock-Pipit; its song is a loud one, of two notes only, delivered sometimes as it flies, and sometimes from its seat on the top of a rock. Though I saw the old birds feeding their young, I never found the nest.

607. Cochoa purpurea. Frequently met with at Binsur and Nynee Tal. I shot two or three.

609. Pteruthius erythropterus. One shot at Nynee Tal.

631. Zosterops palpebrosus. Very common both at Nynee Tal and Almorah. The nest is generally suspended among the leaves of a bush, or in the lower outside branches of a tree. It is a neat slight little cup, an inch and three quarters in diameter, composed of fine roots, fibres, and cobwebs intermixed with some down of plants, and lined with horsehair. The eggs, three in number, are laid in the early part of May, and are ·583 in. by

·416 in., of a very light pure blue, almost the colour of skim-milk, like those of the English Wheat-ear or Starling.

634. Ægithaliscus erythrocephalus. Common in well-wooded districts. This bird must breed early, for in June they were in small flocks.

638. Lophophanes melanolophus. As common as the preceding, and frequently in company with it. It also breeds early.

644. Parus monticolus. Several seen at Puera, between Nynee Tal and Almorah. I procured a male and a female.

645. Parus cinereus. Common at Almorah. In April and May I found the nest two or three times in holes in terrace-walls; it was composed of grass, roots, and feathers, and contained in each instance nearly full-grown young ones, five in number.

647. Machlolophus xanthogenys. I shot three or four of this species at Puera, and afterwards found it numerous in the Nynee Tal woods.

660. Corvus culminatus. A Crow which I took to be of this species is common everywhere, but I never shot one.

663. Corvus splendens. Common.

669. Garrulus bispecularis. Frequently met with in well-wooded districts. It breeds early, as in June many of them were moulting.

670. Garrulus lanceolatus. More common than the preceding. The young, just out of the nest, were met with in June.

684. Acridotheres tristis. Not uncommon at Nynee Tal and at Almorah, where it breeds.

686. Acridotheres fuscus. Common between Almorah and Nynee Tal, especially about Ramgurgh. In some rocky cliffs near the latter place it breeds plentifully in holes and cliffs of the rocks. All the nests had young in June, when I passed the place. I believe the bird also breeds in holes in trees, for I saw the old birds waiting with food in their bills in a well-wooded place far away from cliffs.

687. Temenuchus pagodarum. A few seen at Almorah, and one nest found in a hole in a tree. The eggs are pale blue, and smaller than those of the common Myna.

688. Temenuchus malabaricus. Sometimes seen at Almorah. One procured.

706. Passer indicus. Common at Nynee Tal and Almorah.

724. Melophus melanicterus. Common in the open country. The nest is placed in the broken terrace-walls, at the foot of a small bush or tuft of grass. I found one in the middle of May on a small bank about three feet and a half high, placed about two feet from the ground, at the roots of a small scrubby bush, and composed of roots, fibres, and grass, lined with hair. There were four eggs; another nest had three only; they measure ·75 in. by ·583 in., and are of a dull white with a greenish tinge, thickly speckled and spotted with reddish-brown and purple-grey. The egg is not marked with lines, like a Bunting's. I shot the old birds in each instance. The song of the male is a monotonous one, of two or three notes only, constantly repeated. The dark chestnut plumage is not assumed till the second year; and young males breed in their first plumage, which exactly resembles that of the female.

738. Carpodacus erythrinus. This bird was common at Almorah in the middle of April, when I arrived there; early in May they all disappeared, having, I suppose, gone further north to breed. Seeing the birds in pairs everywhere gave me great hopes of obtaining the eggs.

750. Chrysomitris spinoides. A few seen in June on the top of a high well-wooded mountain near Nynee Tal. I shot a mature male. In April this bird was common at Almorah, and was then moulting; in June they were not to be found there.

767. Alauda gulgula. Common on open ground near Almorah, and between that place and Binsur. It is a most delightful songster, quite equal to the English Sky-Lark, I think; and the song is sweeter; but I do not think it soars for quite so long a time. The nest is placed in any little hollow partly overgrown with short grass; and I saw one with a stone partly overhanging it. It is composed of a small quantity of fine

grass. The eggs are three or four in number, and are laid from the second week to the end of May. They measure ·834 in. by ·625 in., greyish-white, mottled and speckled all over with two shades of light brown. Both nest and eggs closely resemble those of *A. arvensis.*

778. Sphenocercus sphenurus. One shot near Binsur.

793. Turtur meena. Common in well-wooded places.

794. Turtur cambayensis. Frequently seen near Almorah, and one nest procured.

808. Pucrasia macrolopha. I have two eggs of this bird, given me by a friend; they measure 2·083 in. by 1·416 in., and are of a buffy-white, spotted all over with lighter and darker reddish-brown, so as strongly to resemble those of the English Black Grouse.

810. Gallophasis albocristatus. I have two eggs of this bird, from the same source; they measure 1·925 in. by 1·458 in., and are of a dull buffy-white without spot, very like those of a Game Fowl.

812. Gallus ferrugineus. Two eggs of this bird measure 1·75 in. by 1·416 in., and are of a pale buffy-white without markings.

820. Caccabis chukar. Dr. Govan, of Almorah, gave me a few eggs of this bird laid in confinement; they measure 1·75 in. by 1·25 in., and are of a pale greyish-buff, marked sparingly all over with very light greyish-brown, closely resembling those of the European *C. rufa.*

855. Lobivanellus goensis is met with in the lower valleys.

In addition to the foregoing birds I have two or three which I cannot make out. They may be new to the Indian list. One is a *Prinia,* with a dark ashy-grey band across the chest; another is like a diminutive full-crested Bulbul, a plain brown little bird with a dark chestnut-brown head. I was much struck with the great scarcity of Eagles and Hawks in Kumaon; I expected to find them plentiful, but the reverse was the case. I once saw a Sparrow-Hawk, but could not determine the species.

V.—*On some new* Procellariidæ *collected during a Voyage round the World in* 1865–68 *by H. I. M.'s S.* 'Magenta.'

By Henry Hillyer Giglioli, Sc.D., C.M.Z.S., Naturalist to the Expedition, and Thomas Salvadori, M.D., C.M.Z.S., Assistant in the Royal Zoological Museum of Turin.

A full account of the ornithological collections made during the voyage of the 'Magenta,' rich in species and specimens, will be communicated to the scientific world in a special Memoir, at which both of us are hard at work*. Meanwhile we think it advisable to publish the following descriptions of new species of *Procellariidæ,* which are as important as they are unexpected, especially after the careful review of this most intricate and difficult family by that distinguished American ornithologist Elliot Coues†.

The subject of this paper will be read at the meeting of Italian Naturalists at Vicenza on the 13th of September; yet as the Proceedings of that meeting will not be published for some time, we have thought that an English version of the first ornithological fruits of the voyage will not prove unacceptable to our English friends and to the readers of 'The Ibis.'

1. ÆSTRELATA MAGENTÆ, sp. nov.

"Bill black; tarsi and a third part of the toes, and interdigital membranes at their base, flesh-colour; the distal third black; irides brown. A rare species, of which I shot a single specimen on the 22nd of July, 1867, in the Pacific, lat. 39° 38′ S., long. 125° 58′ W. (of Greenwich). I saw it again on the 3rd of August, lat. 32° 23′ S., long. 92° 39′ W., and on the 31st of the same month in lat. 26° 7′ S., long. 88° 50′ W."—H. H. G.

Æ. supra intense fusco-nigra, plumis sub quadam luce pallide marginatis; alis, cauda, lateribus, subalaribus ac torque jugulari fusco-nigris; regione anteoculari intensiore; fronte albido-sericea fere argenteo colore perfusa, lateraliter magis conspicue; gula, pectore abdomineque albis; subcaudalibus lateraliter cinereo tinctis, scapis parte apicali fuscis; rostro nigro, pedibus carneis, digitis palmisque nigris excepta parte basali interna tarso concolori; iride brunnea.

---

* [*Cf.* 'Ibis' 1868, pp. 497–499.—Ed.]

† "A Critical Review of the Family *Procellariidæ,*" Proc. Acad. N. Sc. Philad. 1864, pp. 72–91, 116–144; 1866, pp. 25–33, 134–197. [*Cf.* 'Ibis' 1867, p. 131.—Ed.]

Long. tot. $0^{m}\cdot400$, alæ $0^{m}\cdot310$, caud. $0^{m}\cdot140$, rostr. a fronte $0^{m}\cdot043$, tars. $0^{m}\cdot038$, dig. med. cum ung. $0^{m}\cdot056$.

This species appears to be allied in a certain degree to *Procellaria rostrata,* Peale, having a robust bill as in that species, although not so high at the base, being instead broader than high; moreover, in our species the frontal feathers advance abruptly as far as the base of the nasal tubes. It differs also in the darker and blacker colour of the upper parts, the edges of each feather in certain lights being distinctly lighter, and wanting completely that sepia-brown tint so characteristic of *P. rostrata* (*cf.* Cassin, Orn. U. S. Expl. Exp. 1858, p. 412, pl. 41). Our species, besides, has a white throat, and the forehead washed with silky white, which extends laterally and posteriorly as far as over the eyes; this is an important diagnostic character: besides this last feature, it differs from *P. incerta,* Schlegel, in its much darker upper parts, in its well-marked jugular band, in its white under tail-coverts, and in its smaller dimensions.

In the specific name given to our species, we wish to commemorate that of the first Italian man-of-war which has circumnavigated the globe.

2. ÆSTRELATA ARMINJONIANA, sp. nov.

"I found this species pretty common near Trinidad Island, in the South Atlantic, in lat. 20° S. or thereabouts. On the 23rd of January, 1868, as we lay becalmed about eight miles off the island, many specimens were shot; unfortunately, believing it a well-known species, I had only two skins prepared. Bill black, tarsi and basal portion of the toes and membranes flesh-colour, the distal parts being black; irides brown."—H. H. G.

Æ. supra fusco-nigra, plumis totis pallide fere griseo colore marginatis, in fronte magis conspicue; gula alba plumis anguste griseo-fusco-marginatis; pectore abdomineque pure albis; torque jugulari, lateribus, axillaribus, tectricibusque alarum inferioribus nigro-fuscis; subcaudalibus cinereo-nigris apicibus albicantibus ac minutissime albido variegatis, scapis nigris; remigibus nigro-fuscis, intus basi albicantibus; rectricibus nigro-fuscis; rostro nigro; tarsis carneis, digitis ac membrana interdigitali nigris, excepta parte basali interna tarso concolori; iride brunnea.

Long. tot. 0m·350, alæ 0m·300, caud. 0m·140, rostr. a fronte 0m·029, tars. 0m·034, dig. med. cum ung. 0m·018.

The above is the description of what appears to be a fully adult specimen. The other one, perhaps younger, has the sides of the head whitish, the white of the basal portion of the feathers showing itself; the gular collar is not so much marked; and the lower series of the under wing-coverts, together with the basal portion of the remiges, are decidedly white. These are the only appreciable differences between our two specimens. This species is near akin to the preceding one, but differs in being smaller, more slender, in having a much smaller and weaker bill, and, moreover, in having no trace of silky white on the forehead; nor is the anteocular region darker; besides, its under tail-coverts are greyish-black, and their tips bordered with white.

This species appears also to have many affinities with *P. neglecta*, Schlegel; but besides the difference of *habitat*, *P. neglecta* being from the Polynesian islands, this last species, according to Schlegel, has "*les tiges des remiges blanchâtres*," while in ours they are black.

Finally, *Æ. arminjoniana* appears allied to *P. parvirostris*, Peale (from the Pacific), which species has all its upper parts of a sepia-brown without the least admixture of cinereous, which last character is conspicuous in our species, on account of the lighter edges of the feathers; besides, our bird has a white throat, while that of *P. parvirostris*, Peale (Cass. *loc. cit.* pl. 40), is of the same colour as the upper parts.

We have named this species after Captain Victor Arminjon, R.I.N., the gallant officer who commanded the 'Magenta' on her voyage, as a slight token of gratitude for the efficient manner in which he aided to render more complete our researches on the pelagic fauna.

3. ÆSTRELATA DEFILIPPIANA, sp. nov.

"This species was seen for the first time in our wake on the 5th of August; it followed us up to the 10th, in lat. 18° 4′ S., long. 79° 35′ W., not far from the Peruvian coast. It reappeared more numerously, following the ship's wake, during our cruise from Callao to Valparaiso in September. It flies very much like a *Prion.* Bill black; tarsi light blue; toes black, interdigital membranes yellowish, brownish towards the distal extremity; irides brown."—H. H. G.

Æ. pileo, collo supra, dorso ac supracaudalibus pulchre cinereis, uropygio ac regione periophthalmica, præsertim infra oculos, nigricantibus; plumis dorsalibus obsolete albescente marginatis; sincipitis plumis albo marginatis, fronte fere ex toto alba: subtus omnino pure alba; lateribus pectoris vix cinereo tinctis; alis cinereo-nigricantibus, remigibus secundariis magis cinereis, fasciam obliquam fere constituentibus; tectricibus alæ inferioribus candidis; margine carpali ac linea sub margine radiali candido cinereo-nigricantibus, remigibus nigricantibus; duabus tertiæ partis pogonii interni abrupte albis, intus apicem versus fusco-nigricante marginatis. Rectricibus sex mediis fere ex toto pure cinereis, quarta et quinta utrinque albo variegatis, extima alba pogonio externo minutissime cinereo-punctata, interdum pure alba; rostro nigro; tarsis pallide cæruleis, digitis nigris, palamis flavidis apicem versus fuscis; iride brunnea.

Long. tot. $0^{\mathrm{m}}\cdot300$, alæ $0^{\mathrm{m}}\cdot225$–$0^{\mathrm{m}}\cdot240$, caud. $0^{\mathrm{m}}\cdot105$–$0^{\mathrm{m}}\cdot120$, rostr. a fronte $0^{\mathrm{m}}\cdot026$–$0^{\mathrm{m}}\cdot029$, tars. $0^{\mathrm{m}}\cdot028$–$0^{\mathrm{m}}\cdot029$, dig. med. cum ung. $0^{\mathrm{m}}\cdot035$–$0^{\mathrm{m}}\cdot037$.

Besides these slight differences in size, there are in the four specimens collected slight differences in colour, especially in the external rectrices, which are more or less spotted with greyish—sometimes the first is quite white. This species, although much smaller than *Æ. mollis* (Gould), has a bill relatively, and in some specimens, absolutely longer. It is much compressed, and the interramal space denuded of feathers, as in *Prion,* with which this species appears to have some affinity in the coloration of the tarsi and the manner of flight, as already noticed.

Æ. defilippiana belongs to that group of small species distinguished by their white under wing-coverts, and to which belong *Æ. cooki* (Gray), *Æ. gavia* (Licht.), *Æ. desolata* (Gm.), and *Æ. gularis,* Peale*; with this last species alone our bird has in common the peculiar coloration of the remiges, the outer and one-third of the inner webs of which with the tips are brownish-black, while two-thirds of the internal webs are white, the two colours meeting without any gradation of tint, but presenting a sharp well-defined outline, and thus forming two distinct areas, the white area being internally bordered at its apex by brownish-black.

---

* This species was incompletely described by Peale (Zool. U. S. Expl. Exp. 1848, p. 299, pl. 84); but the type specimen has been most accurately redescribed by Coues (Proc. Acad. Philad. 1866, p. 151), who, for want of specimens for comparison, did not consider it specifically distinct

But our species differs from *Æ. gularis*, as described by Coues, in its smaller dimensions and slighter make (*Æ. gularis* being in size and make similar to *Æ. mollis*), in the cinereous coloration of its upper, and the pure white of its lower parts, while *Æ. gularis* would be dark-coloured above and below, having only the under tail-coverts white. Moreover we may observe that *Æ. gularis* appears peculiar to a much more antarctic region, the only known specimen having been caught in S. lat. 68°, long. 95° W.

We have given to this species the name of the much-lamented Professor F. de Filippi, who halfway on the long voyage, undertaken with such bright hopes, on board the 'Magenta,' fell, as a soldier on the field of battle, a victim to his love of Natural Science, at Hong Kong, on the 9th of February, 1867.

4. ÆSTRELATA TRINITATIS, sp. nov.

"We found this species pretty abundant around Trinidad Island in the South Atlantic, and I procured several specimens on the 23rd of January. Bill and feet deep black, irides brown."—H. H. G.

Æ. ex toto fuliginoso-nigra, subtus vix pallidior, remigibus nigricantioribus, basi intus pallidioribus; fronte ac capite supra plumis distincte griseo-marginatis; rostro pedibusque nigris; iridibus brunneis.

Long. tot. $0^{m}\cdot350$, alæ $0^{m}\cdot290$–$0^{m}\cdot295$, caud. $0^{m}\cdot130$, rostr. a fronte $0^{m}\cdot028$–$0^{m}\cdot031$, tars. $0^{m}\cdot034$, dig. med. cum ung. $0^{m}\cdot046$–$0^{m}\cdot050$.

---

from *Æ. mollis*, although it seems to us that he was perfectly entitled to do so, looking to the pure white coloration of the under wing-coverts, and of the greater part of the internal webs of the primaries, without any gradual transition to the blackish-brown of the external webs, and part of the internal ones.

Another specimen, perhaps a younger bird, has the under parts, and especially the throat, lighter, the pure white of the basal portion of the feathers showing amidst the fuliginous-brown of the rest.

This species belongs to that group of *Æstrelatæ* characterized by a uniform sooty-brown plumage, and generically distinguished by Bonaparte as *Pterodroma*.

Our bird differs from *P. macroptera* (Smith) (*Procellaria fuliginosa,* Kuhl, *nec* Gm.) in its smaller dimensions, and in its relatively longer wings, which extend about 2 inches beyond the extremity of the tail—also in the pure white (not greyish, as in *P. macroptera*) of the basal part of the feathers which clothe the neck and under parts. But the main distinction lies in the bill, which in our species is *much* smaller and weaker*.

Æ. trinitatis appears to be rather smaller than *Procellaria caribbæa,* Carte (P. Z. S. 1866, p. 93, pl. x.), from which it may be at once distinguished by the peculiar cinereous colour of the rump and upper tail-coverts in the last-named species. It is hardly worth while noticing that our species differs from *P. aterrima,* Verreaux, in the uniform black of its feet, and from *P. bulweri,* Jardine and Selby, which is so much smaller†.

---

* Three specimens of *Æ. macroptera* form part of the Ornithological collections made during the voyage of the 'Magenta,' and beyond doubt are the same as *P. atlantica* (Gould).

† Having described four new species of *Æstrelata,* we add a list of the species which now compose the genus. Those marked with an asterisk form part of the 'Magenta' collections, the appended number showing how many specimens were prepared.

a. ÆSTRELATA.

1. Æstrelata hæsitata (*Kuhl*).
*2. Æ. lessoni (*Garnot*). (*P. leucocephala,* Licht.) (4.)
*3. Æ. incerta (*Schleg.*).
4. Æ. rostrata (*Peale*).
*5. Æ. magentæ, nob. (1.)
*6. Æ. arminjoniana, nob. (2.)
7. Æ. parvirostris (*Peale*).
8. Æ. neglecta (*Schleg.*).
9. Æ. solandri (*Gould*).
10. Æ. grisea (*Kuhl*).
*11. Æ. mollis (*Gould*). (4.)

b. COOKILARIA, Bp.

12. Æstrelata cooki (*Gray*).
13. Æ. gavia (*Licht.*).
14. Æ. desolata (*Gm.*).
15. Æ. gularis (*Peale*).
*16. Æ. defilippiana, nob. (4.)

c. PTERODROMA, Bp.

*17. Æ. macroptera (*Smith*). (3.)
*18. Æ. trinitatis, nob. (2.)
19. Æ. caribbæa (*Carte*).
20. Æ. aterrima (*Verr.*).
21. Æ. bulweri (*Jard. & Selby*).

5. **Puffinus** ——, sp. nov.?

"The only specimen seen was shot on the 2nd of March, 1866, in the South Atlantic, lat. 43° 51′ S., long. 9° 20′ E. Bill light blue, with the culmen and apex black. Tarsi in front, and upper part of toes, light blue, tarsi behind, and under surface of toes, black; interdigital membranes whitish. Irides brown."—H. H. G.

P. supra ex toto cinereo-plumbeus, plumis totis angustissime albo-limbatis; tectricibus alarum mediis, majoribus, ac remigibus secundariis albo-limbatis, fascias tres trans alam formantibus; subtus, tectricibus alæ inferioribus, remigibusque intus candidis; capitis ac colli lateribus albo-cinereo-mixtis; cauda brevi ex toto cinereo-plumbea; tarsis postice nigris, antice cærulescentibus; digitis subtus nigris, supra cærulescentibus, palamis albidis, unguibus nigris; rostro tenui, cærulescenti, culmine et apice nigris; iride brunnea.

Long. tot. 0^{m}·320, alæ 0^{m}·190, caud. 0^{m}·075, rostr. a fronte 0^{m}·027, hiatus 0^{m}·037, tars. 0^{m}·040, dig. med. cum ung. 0^{m}·049.

This species is very distinct, on account of the fine cinereous colour of its upper parts, from all hitherto described species, as enumerated by Coues in his Monograph. The only species with which it might perhaps be identical is *Puffinus mundus* Kuhl (*Nectris munda*, Banks, tab. 24); but the only description we have been able to consult, that of Bonaparte (Consp. Av. ii. p. 205), is far too brief and incomplete to be recognizable. The following is his diagnosis:—"Magnitudine *Perdicis*, alis cauda aliquantum brevioribus; cauda brevi, cuneiformi: rostro cyaneo-griseo, apice nigro: pedibus cyaneis, unguibus falculatis."

It is true that the above description fits our specimen in some parts, but certainly not in the shape of the tail, which is not wedge-shaped, but rounded; besides, the bill has also a black culmen, and the feet are not entirely blue; and then not a word is added about the coloration, so characteristic in this species—fine cinereous lead-colour above, and pure white below.

The only way to decide this interesting question is to compare our description with Banks's figure of his *Nectris munda*; it appears also that since his time no one has observed specimens of that species; and Bonaparte and Coues ask: "*Quid Procellaria munda,* Kuhl?" If it should prove really new, it may go by the name PUFFINUS ELEGANS, nob.

Royal Zoological Museum, Turin,
September 12th, 1868.

VI.—*Further Notes on South-African Ornithology.*

By E. L. LAYARD, F.Z.S., &c.

IN continuation of my Notes, as promised in my letter of the 17th of December 1867 (Ibis, 1868, pp. 242–248), I beg leave to offer the following. The numbers prefixed to the names of the species refer to my 'Birds of South Africa.'

5. OTOGYPS AURICULARIS. Mr. Henry Jackson has sent me eggs of this fine Vulture from the interior of the country, which differ considerably from those which are found in the neighbourhood of the sea-coast. They are white, with small distinct spots of the colour of dried blood, whereas those from the southern parts of the colony, that I have seen, are as described in my book. Mr. Jackson found that the eggs of this, and the next, weighed 9 oz. each. It breeds in June, as also does the next species.

6. GYPS FULVUS. Mr. Jackson has obtained for the Museum a splendid series of the eggs of this bird, and I append an account which he has sent me of an assault on the Vultures' "Krantz" in the Beaufort Mountains.

"The South-African Museum being in want of eggs of *Gyps fulvus* from this country, I determined to try and procure some from a noted breeding-place of this species a short distance from my residence. My first attempt was made on the 19th October, 1866; but this proved too late in the season, all the eggs being hatched—though I had the satisfaction of ascertaining that most of the nests were accessible with the aid of a rope. I made a second attempt on the 31st August, 1867, but was again too late, obtaining only two addled eggs. Determined to be in time this year, I sent my nephew on the 30th May to see what the birds were doing; and he reported seven eggs visible from the top of the "krantz" or precipice. Giving the birds three weeks longer to finish laying, I sent him again on the

20th June, accompanied by an active man, and provided with two stout ropes (together 180 feet in length), provisions for the day, blowpipe and drill, and knapsacks filled with wool for the eggs. The following is his account of the trip:—

"'We started at 8 o'clock A.M., and, after about an hour's walk, reached a fountain. From this point a tedious climb of about an hour and a half brought us to the summit of the mountain, and we stood on the edge of the krantz. We proceeded along the edge, looking carefully down below for eggs, until, in about a quarter of an hour's time we sighted one, and forthwith prepared for a descent. The krantz, seen from a distance, has the appearance of a long perpendicular precipice, with few inequalities on its face; but in reality it leans back considerably from the perpendicular, and its ledges and jutting points afford sufficient footing to enable one to descend almost anywhere with the aid of a rope suspended from the top. The greatest height of the krantz is about 550 feet, and the average about 400 feet. The Vultures build on the ledges about one-third of the distance from the top; and their nests, composed of sticks, bushes, and grass, in the form of a shallow plate, and about two feet in diameter, contain one egg each. The cliffs about the nests are quite white from the droppings of the birds, and this is conspicuous from a great distance. The krantz runs about east and west, and faces south, so that for some months in winter the sun does not reach it.

"'Having fixed one end of the longest rope to a large stone, provided myself with a knapsack, and taken off my shoes to enable me to secure firmer footing, I began to descend. The rope proved too short, and we had to join another to it. I there got four eggs. They are of a dull bluish-white, some being slightly speckled with brown at the obtuse end, and weigh 9 oz. After blowing and packing these, we hauled up the rope and proceeded further, descending wherever we saw eggs that could be got at, until we had obtained sixteen. It was now 4 o'clock P.M., we had traversed about half the length of the main krantz, and were beginning to think of returning, when, on rounding a corner, we were agreeably surprised by the sight of a number of birds on the ledges below. We frightened them off, and counted seventeen eggs! Taking two knapsacks, and descending very nearly to the full length of both ropes, I found myself on a vast shelf, along which I could almost run. On this I got nine eggs, besides several more on smaller ledges, which I could easily gain without the rope. I filled one knapsack, and was sadly put to it to get it up safely. I managed, however, by fastening it to the rope and drawing it up by easy stages, until I got it, together with other eggs gathered on the way up, safely to the top. It was now too late to blow them; so I packed them as they were, and we started on our return home, which we reached at 7 o'clock P.M.'

"Thirty-four were obtained on this occasion; but three of the unblown ones got broken on the way back, and of the remainder I forwarded twenty-eight to the South-African Museum."

11. AQUILA SENEGALLA. Breeds in June. Eggs have been received from Mr. Jackson, Mr. Ortlepp, and my son; they are of a rounded-oval shape, white, and more or less spotted and blotched with dark red spots. Axis 2·75 in.; diam. 2·084.

Mr. Ortlepp writes:—"A few weeks ago, a pair darted down on a flock of merino ewes and lambs, and only flew off after having despatched forty of the latter! At the time this happened, the sheep were in charge of a small bush-boy, in a secluded kloof, far away from the homestead. They quite disregarded the boy, and were only put to flight when the unfortunate owner made his appearance with a gun." This is a most unusual occurrence: a single lamb is often killed by them, and devoured; but what occasioned this lust for slaughter exceeds my comprehension.

13. AQUILA VERREAUXI. Messrs. Jackson and Ortlepp have both sent eggs of this fine Eagle; the latter writes:—"These birds lay about the beginning of July*, on ledges of steep precipices, though not always, as I have heard of their nests in taijbos-bushes [*Rhus lucida,* Linn.] along the Zeekoe River. Eggs two. For some time after leaving the shell, the young birds are quite white, more like balls of swans' down than birds." The Museum now has five fine eggs of this bird.

---

* June in some places.—E. L. L.

14. Spizaetus coronatus. Mr. W. Atmore writes to me that this species "prefers thickets of mimosa-trees, and is very destructive to geese and young lambs. It makes a large nest in a mimosa, and lays two large white eggs, much pointed at the small end."

16. Spizaetus occipitalis. Dr. Atherstone, of Graham's Town, writes of one which he had tame for some time, that "he used to walk up and down the river's bed, catching frogs, and afterwards was so mean as to kill our pet toads and lizards on our grass-plat." For the enormity last mentioned, he was transported; and I saw him on his way to England in the mail steamer, mewed up in a hen-coop. It served him right; for he was too grand-looking a bird to descend to such ignoble game.

21. Haliaetus vocifer. This Fish-Hawk does not always confine himself to the prey mentioned by me (B. S. Afr. p. 17). Lately, while on a shooting-excursion on the sea-coast near L'Agulhas, I found a fine male example, in young plumage, hung on a tree with a bullet-hole through his chest. His crime was, that night and morning for several days he had regularly carried off one of my friend Mr. Van der Byl's lambs! Mr. Atmore also writes me word that they will kill lambs. Mr. Ortlepp sent a splendid egg of this bird, taken from a nest on a tree on an island in the Orange River. It is pure white, with a very fine grain, and is much pointed at the small end.

44. Accipiter gabar. Le Vaillant's account of the eggs and nest is correct. The eggs are, axis 1·67 in., diam. 1·291. The nest is sometimes lined with wool.

46. Melierax musicus. Mr. Jackson says that this species never lays more than three eggs, and more often only two. The bird is very abundant in his neighbourhood.

58. Bubo capensis. Mr. Atmore writes that it is "common in the Karroo, but rare at George. I once took a nest at Buffelsjaghts River in a mimosa-tree, that had been used by a Crow the previous year. It contained three white eggs."

64. Otus capensis. I met with several of these Owls at Naghtwaght, the residence of Mr. Alexander Van der Byl,

near L'Agulhas; they inhabited a dry vley, their colour resembling exactly that of the dead grass and rushes.

74. CYPSELUS GUTTURALIS. I saw the first specimen of this Swift on the 28th of August, this year; at the same time also, I saw *Hirundo capensis,* and two days later *H. rustica.* My son, at Swellendam, two hundred miles off, gives about the same dates, and adds *H. dimidiata.* He also says that "*Atticora holomelas* arrived on the 5th September, *Hirundo rufifrons* (the old pair that breed here) on the 6th, and *H. capensis* on the 8th."

94. COTYLE PALUSTRIS remained in sheltered places all the past winter, which was a mild one.

109. CERYLE MAXIMA[*]. Mr. Atmore writes:—"I once found one of these birds with his bill shattered, evidently against a stone while striking his prey in too shallow water."

117. MEROPS HIRUNDINACEUS. Mr. Ortlepp thinks this species does not migrate like its congener *M. apiaster.* He has found it in midwinter (June) hawking over the Orange River.

196. SAXICOLA ALBISCAPULATA, and 197. S. RUFIVENTER. I have come to the conclusion that these are but male and female of the same species, and the origin of Le Vaillant's figures (Ois. d'Afr. iv. pl. 188) of "Le Traquet à queue striée" and "Le Traquet à cul roux," of which he has wrongly numbered the letter-press. He probably saw, but did not obtain, specimens; but afterwards becoming acquainted with the Indian species, and recognizing the general likeness, described that bird.

199. SAXICOLA SPERATA. Mr. Atmore writes that "at Oliphants River a pair made a nest on a hair-broom in a bed-room, and brought off their young,"—a fact rather confirmatory of the supposition that this is Le Vaillant's "Traquet familier."

209. PARUS CINEREUS. Of this Mr. Atmore writes, "common at Swellendam in the mimosa-thickets: breeds in hollow trees. I have seen twelve eggs in a nest which must certainly have required all the fur off a hare to make it!"

[*] [An rectiùs C. *guttata* (Bodd.)?—ED.]

210. Parus cinerascens. Sent from Colesberg by Mr. Ortlepp. Le Vaillant's figures (Ois. d'Afr. iii. pl. 138) are much too highly coloured.

219. Motacilla capensis. The yellow Wagtail mentioned under my notice of this species (B. S. Afr. p. 119) has again turned up near Cape Town. A fine example was shot by Mr. Duminy near D'Urban, twelve miles off. On comparing it with examples of *M. flava* from Europe, in the Museum, it seems to be identical, the yellow eye-brow, however, being hardly so perceptible.

220. Motacilla longicauda. Mr. Glanville, the curator of the Albany Museum at Graham's Town, informs me that a specimen of this bird has been lately procured near that place.

231. Anthus lineiventris [Sundev. Œfv. K. Vet. Ak. Förh. 1850, p. 100]. Mr. Ortlepp has procured several of these Pipits at Colesberg. A remarkable feature has been omitted from my description, owing to the imperfect state of the solitary specimen that had then reached my hands. The inside edge of the flexure of the wing and the under wing-coverts are bright yellow.

234. Chætops frenatus. Mr. Atmore says that this bird is common on all the mountains that he has ascended, and that it builds in crevices. The eggs are like those of *Bessornis phœnicurus*. I lately saw a single specimen cross the road through Houwhoek, a mountain-pass about forty miles from this, and speed up the mountain with its usual enormous bounds.

258. Criniger importunus. According to Mr. Atmore, it builds near the ground, and its eggs are like those of *Telephonus collaris*.

265. Pycnonotus aurigularis. Mr. Atmore, whose vocation as a surveyor has led him to be abroad constantly in Outeniqua (the locality given by Le Vaillant for it), says he never saw anything at all like this bird.

281. Muscicapa grisola. My son has procured this species at Grootevadersbosch, near Swellendam.

319. Laniarius silens. Mr. Ortlepp says, "found about

the Orange River. Its song is sweet and sustained, and it has also considerable powers of imitation." I saw a few pairs about Grootevadersbosch, but I never heard them utter any sound.

324. Laniarius icterus. Another specimen of this grand Bush-Shrike is in the Museum at Graham's Town, obtained, I believe, in that neighbourhood.

339. Juida phœnicoptera. Mr. Henry Bowker says they breed in hollow trees or deserted Wood-peckers' nests. Mr. Atmore says they "do not come to the westward of the head-waters of the Gamtoos River."

353. Dilophus carunculatus. My brief account of the breeding-habits of this bird is confirmed by two other intelligent eye-witnesses. The species never seems to return two successive years to the same neighbourhood.

363. Hyphantornis ocularius. A single female was obtained near Graham's Town, by Mr. Fred. Barber, who saw it "poking about amongst old dead leaves, scratching and searching for insects."

366. Sycobius bicolor. Said by Mr. Atherstone to be common along the coast to the eastward of the Kei River. The back of the head is furnished with a few elongated bristle-like feathers, in some instances bifurcating, resembling those of the Indian genus *Trichophorus*.

379. Chera progne. Mr. Henry Bowker, a close observer of our fauna and flora, tells a story different from that given by my other informant. He writes "This bird seldom interferes with our corn-lands, and is mostly found on open flats. It builds its nest in long grass close to the ground. The points of the blades are drawn over and tied together at the top, like the framework of a native hut. The tail of the male in the breeding-season is not an inconvenience to him. He never seems to enjoy himself so much as during a high wind, in which he shows himself off to advantage, spreading his tail out like a fan. I should say the average is ten or fifteen females to one male." This latter statement is curious, and

accords with what I have seen of the allied *Vidua principalis,* (No. 375). One male in full breeding-dress is usually attended by from five to ten females. Can they be polygamists? does the male never sit on the eggs? and does the same thing prevail in *Estrelda astrild,* which is said to breed in communities, several hens laying in one nest, and eggs being hatched at different times?

441. Crithagra selbii. I found this species abundant about Saldana Bay and the Berg River, during a recent trip thither. Mr. Ortlepp also sends it from Colesberg. It is called "Dik-bec Seisje" and "Berg-Seisje," by the colonists.

443. Crithagra strigilata. I cannot help thinking this may prove to be the female of (No. 442) *C. butyracea.*

532. Coturnix histrionica. Several specimens of this bird have been procured not far from Graham's Town, and to the eastward, one of which has been forwarded to me by Mr. Glanville. I at once recognized it as the Quail purchased by the Count de Castelnau, as mentioned in my book (p. 275).

535. Pterocles tachypetes. Mr. Atmore declares it only lays two eggs. Another correspondent says three.

542. Eupodotis ludwigi. Mr. Jackson affirms it only lays one egg. The bird is common in his neighbourhood. These contradictions open a curious question for inquiry. It cannot be that errors as to the number of eggs of birds so well known are wilfully made. I can only fancy that the number is determined by the ease or difficulty with which food is obtained in the different localities to which the birds resort to breed. In places where food is plentiful, it is easy to bring up a larger family, and *vice versâ.* In connexion with this subject, I was informed lately that the Locust-bird, *Glareola nordmanni* (No. 555), always lays its eggs where it knows a large supply of young locusts may be expected, and at such a time that the young may be excluded when the insects are afoot. In some instances, owing to a mistake in their calculations, the locusts have taken flight before the brood was able to follow, and they have

been consequently deserted by the parent birds and left to perish.

550. Œdicnemus maculosus. I plead guilty to correcting a gentleman who was better informed than myself (B. S. Afr., p. 288, note). *Œ. senegalensis* (qu. *Œ. crepitans*?) has just turned up on the vast flat plateau called the Strand Veldt, the south coast of the continent, about L'Agulhas. It must, however, be extremely rare, as Mr. H. Van Breda, who forwarded the specimen, has lived there for very many years, and never saw it before.

552. Cursorius bicinctus. Mr. Atmore writes that it "lays only one egg [!!], on the bare ground, without even scratching a hole. It prefers bare, grey places by the road-sides. I picked up nearly twenty on my road home from the Nieuw Veldt, in September and October, by watching them run away from a small flock of sheep."

565. Charadrius tricollaris. Mr. Chapman, the author of 'Travels in the Interior of South Africa,' informs me that this is the bird mentioned in his volumes as living with the hippopotamus and warning him of danger.

610. Totanus stagnatilis. Procured at Colesberg by Mr. Ortlepp, and at George by Mr. Atmore, who says it is not uncommon there.

617. Recurvirostra avocetta. The mystery of these birds frequenting our parched inland wastes is explained; Mr. Ortlepp has found them breeding on the vleys near Colesberg, and sends their eggs. Mr. G. C. Faure forwards it from a new locality, Hope Town.

621. Tringa subarquata. On the 26th of April last, a lad brought a live example in full breeding-dress, captured near the town.

652. Mareca capensis. Professor Schlegel (Mus. P.-B. *Anseres*, p. 18) gives this as a synonym of *Anas strepera*, Linn. Surely this is a mistake? And yet he quotes "J. Verreaux" as the source whence the specimen (number 10) was acquired in

1858. Both the species are in the South-African Museum; and I do not see how they can be confounded. I do not think that *A. strepera* is found here.

680. Stercorarius catarrhactes. I lately sent the Zoological Society two living examples of the southern Great Skua, and I am anxiously waiting to know if it turns out the same as the northern bird, or whether, like *Cypselus gutturalis* and *C. barbatus*, our birds are sufficiently distinct to constitute a new "species."

694. Podica mosambicana. A specimen, probably a female, of this rare bird has been sent for my inspection by the Curator of the Albany Museum. It was found dead one frosty morning on a deep pool of the Kareiga River, in the Eastern Province. Mr. E. Atherstone says they are still to be found on the Kleinmond River, further to the eastward. I at once recognized it as the bird at which I have twice shot.

696. Plotus capensis. At the Berg River I visited a "rookery" of these birds. It consisted of about thirty nests—thick dense masses of sticks, and weeds resting on them, placed among the branches of some African willows, which in the breeding-season are surrounded by water, but are dry at other times. The eggs are much prized as very delicate food.

730. Graculus africanus has been shot by Mr. F. Barber near Graham's Town.

Ere I close, let me thank Mr. Gurney for his valuable "Notes" on my 'Birds of South Africa.' His corrections and suggestions have been thankfully received, and recorded for a second edition, should such be called for. If I ever attempt it, I trust I shall have an opportunity of personally testing the correctness of my synonymy and identification, by visiting the continental museums, wherein are stowed the collections of other workers in South Africa, and of consulting the zoological works in the rich libraries of Europe. Few people are aware of the disadvantages under which I laboured in this far-off land, in want of books of reference, without collections to refer to, with no friend at hand to consult. I never, to quote my own preface, "put forth this Catalogue as complete; . . . . it is a move forwards, and may serve as a foundation for the labours of others." May those who follow, having the "foundation," build a more perfect structure! I console myself with the remembrance that the giants of our science, with all the advantages which a residence in the midst of books, collections, and societies can give, make mistakes. If the mighty fall, what shall the pigmies do ?

And now a few words in explanation of the species occurring beyond my limits of latitude. In 1855, when I began my catalogue, my intention was to stop at the Tropic of Capricorn. This range would have included all these. In 1865 my lamented friend Andersson broached his intention of publishing his discoveries, and in 1866 he finally settled on his scheme. He then asked me to restrict my 'Catalogue' to the Twenty-eighth parallel. To this I agreed, and lent him all my manuscript notes. We weeded out all species occurring beyond the prescribed limit, with the exception of those given by Sir Andrew Smith in his 'Report,' which we considered should be retained. I should have alluded to this in my preface; but it escaped my memory. The reasons were :—1st. Most of the species were known by us to have a wide range, and were likely to be found, sooner or later, in my limits; many of them had, indeed, already been so found, but the exact localities were uncertain. The late Mr. R. Moffat, whose headquarters were at Kuruman, but who had collected about Griqua Town and along the Orange River, had sent me many of them, and spoken of others as being found south of the Twenty-eighth parallel, for example *Aedon paena, Turdus obscurus, Plocepasser mahali, Estrelda squamifrons, Pyrrhulauda leucotis* (all since found near Colesberg), *Bessornis humeralis, Crateropus jardinii, Eurycephalus anguitimens* (procured by Burchell south of 28°), *Pterocles variegatus* and *P. gutturalis* (these last with vast powers of flight and very migratory), and *Prionops talacoma*. *Textor erythrorhynchus* and *Ploceus taha*, I had pretty good authority for believing, had certainly been found in my limits. *Ploceus lathami* and *Estrelda erythronota* should have been omitted, with *Malaconotus australis, Merula litsitsirupa, Alauda chuana, Cinnyris talatala,* and *Chrysoptilus bennetti*; I believed these were mostly merged in some other names subsequently adopted by Sir Andrew, instead of those originally given, and left them in for identification. *Eupodotis ruficrista* I had from many places within my limits, though beyond the Orange River. *Passer motitensis,* only found by Sir Andrew sixty miles north of the River, is certainly, taking his route, well within the limits. *Hyphantornis tahatali,* he says, occurs "between the Orange River and the tropic," and *Schizœrhis concolor* "inland from Port Natal."

Looking at all these facts, we decided upon keeping them in my catalogue; I must plead guilty to the omission of the explanation which ought to have been given.

But my aim, with all my shortcomings, has been accomplished. An impetus *has* been given to South-African ornithology; the many letters I have received from friends and strangers assure me of this; and already many ornithologists in England and elsewhere, who barely knew that any birds existed in South Africa (!), are looking us up and, I doubt not, will do good service. I trust that an occasional page will be granted me in 'The Ibis;' and I will duly chronicle all the novelties that come to hand, and the corrections that should be made; and I will not spare my own bantling.

VII.—*The* Malurinæ *of North-eastern Africa.*

By Dr. M. T. von Heuglin*.

(Plates I.–III.)

The North-east African *Malurinæ,* among which I include the genera *Aedon, Bradypterus, Catriscus, Oligocercus,* and *Camaroptera,* are for the most part inhabitants of the tropical regions of the continent. In Egypt and Northern Nubia, southward to the limit of rain, there are only *Drymœca cisticola, D. gracilis, Aedon galactodes,* and *Bradypterus cettii,* and in Arabia Petræa the somewhat aberrant *Drymœca inquieta.* Southward from lat. 18° N., *Oligocercus* and *Camaroptera* make their appearance, as also tolerably numerous species of typical forms (*Drymœca*), and in the western district of the country about the sources of the Nile the genus *Catriscus.*

* Translated by W. S. Dallas, F.L.S. &c.

Many species ascend, in the Abyssinian highlands, up to 10,000 feet above the level of the sea; one (*Drymœca rufifrons*) is known exclusively as an inhabitant of the coast-country of the Red Sea.

Respecting the geographical distribution of the North-east African forms in general, trustworthy evidence is wanting to me as regards most of them. *Drymœca cisticola* extends westwards as far as the Gulf of Guinea; eastwards it inhabits most of the warmer parts of Asia. *D. gracilis* occurs also in Syria, Asia Minor, and, according to Mr. Blyth, in India; and *D. rufifrons*, according to M. du Chaillu, on the Gaboon.

All the species of *Drymœca* particularly observed by me appear not to migrate, and they usually live together in pairs and families within small districts, which they seem to quit unwillingly. Their favourite dwelling-place is amongst bushes such as acacias, and other spiny shrubs, and the dry tall grasses of the steppes; some appear to prefer the banks of the torrents to every other locality; and only a few are inhabitants of the marsh-country and larger reed-forests. They fly unwillingly and not far, but show great dexterity in climbing, and slip as nimbly as mice through the thickets. They rarely come down upon the ground, and then only for a short time. Their food, I believe, consists exclusively of insects and their larvæ and eggs. Most of them are remarkably fine singers. The song and mode of life generally somewhat resemble those of the Reed-Warblers. What I had the opportunity of observing with regard to their reproduction is cited under the different species.

The discrimination and settlement of the species was no easy task; and I regard the following memoir only as more or less incomplete, inasmuch as I had not the necessary number of specimens for comparison, and also wanted many of the most nearly allied species from West and South Africa, in order to be able to decide as to the identity or non-identity of some of the species. Several remarkably nearly allied forms I have thought it necessary to separate provisionally as species.

Some naturalists have attempted to split the genus *Drymœca* into various subordinate divisions, such as *Cisticola, Hemipteryx*, and so on. A generic division of the African forms belonging to this group can, however, hardly be effected; notwithstanding the differences in the size and form of the bill, and of the rectrices, and the variations in the proportions of the toes, all show a remarkable agreement in their general type, as also in their mode of life.

Genus Catriscus.

1. Catriscus apicalis (Licht.); Cabanis, Mus. Hein. i. p. 43, note; *Sphenœacus alexinæ*, Heugl., Journ. für Orn. 1863, p. 166.

Supra fuscescente cinnamomeus, occipite magis olivaceo; supracaudalibus purius fusco-tinctis; subtus sordide albidus, lateribus colli et pectoris, cruribus et regione anali ex olivascente rufo indutis; remigibus pallide fumosis, notæi colore marginatis; rectricibus et subcaudalibus fuliginoso-fuscis, apice lato et conspicue squamatim fulvescente albido marginatis, his spadiceo adumbratis; subalaribus albidis; maxilla nigricante, mandibula fulvescente cerina; iride umbrina; pedibus fulvis roseo lavatis.

Long. tot. 5″ 9‴, rostr. a fr. $4\frac{1}{2}$‴, al. 2″ 1‴, caud. 3″ 1‴, tars. $7\frac{1}{4}$‴, dig. med. cum ung. $8\frac{1}{2}$‴*.

The only bird of this species that I obtained in Central Africa, and the sex of which could not be determined with certainty†, was stated by Herr O. Finsch to be perfectly identical with the South-African *Catriscus apicalis*. On comparison with Lichtenstein's original specimen, however, many not unimportant differences present themselves. It is decidedly smaller than the South-African bird; the rectrices are broader and darker-coloured; the difference in length between the second and third remiges is more considerable; the fourth, fifth, and sixth remiges are thelo ngest, and nearly equal in length; the first is half as long as the fourth.

The bill of this well-marked form is shorter and stronger than in the Reed-Warblers, rather somewhat laterally compressed than depressed, but slightly curved, with a scarcely perceptible notch at the rather sharp point; between the eye and the nostril there spring on each side two strong rictal bristles; the middle toe, with the claw, is rather longer than the tarsus; the feet are powerful, the claws moderately long, but fine and acute; the hind claw is as long as the hind toe itself; the wings are round, not very short, but only passing the root of the tail by a few lines. The tail in this genus is most remarkably developed, with a broad uropygium, exceedingly broad and soft and somewhat dishevelled coverts, and long, very broad, graduated, and fan-like rectrices.

---

* Throughout this paper the measurements will be given in French inches, 1′=12″; 1″=12‴.

† [In the author's original description of this specimen (J. f. O. *loc. cit.*) it is marked "♀".—Ed.]

This bird lives in the widely extended and almost impassable deserts at the parent-lake of the Gazelle River; I only saw it there very rarely, as it is unwilling to quit its retreat, climbs about among the reeds like a Reed-Warbler, and endeavours to conceal itself in them. Its peculiar note, distantly resembling the piping of *Argya acaciæ*, set me on the track of this graceful creature; but it was only after days of exertion that I succeeded in killing the specimen described, which was flying at a short distance, with its tail depressed and expanded, over a thicket of rushes. It fell into a thicket where the water was scarcely a foot deep; I had marked the place accurately, and with my pocket-knife I cut down the sedges as carefully as possible, over a space of several fathoms square, a work which took me nearly two hours, and in which night just surprised me, as I at last discovered my rare prize. In the stomach I found small midges.

Found also in South Africa.

Genus BRADYPTERUS, Swainson.

2. BRADYPTERUS CETTII (Marm.), Cab., Mus. Hein. i. p. 43.

Occurs in Egypt according to Keyserling and Blasius, but not collected by me, though I remember having frequently in the spring seen in the Delta and near Cairo a bird probably belonging to this species, especially in cornfields and reed-thickets. A note in my note-book runs as follows:—"11 March, 1852. Two *Sylviæ* seen, one of them ferruginous brown with a graduated tail (*S. cettii*?), the other more of the colour of *Aedon galactodes*, but much smaller, near Berēsch (Lower Egypt)."

Found also in Algeria (Loche, Tristram).

3. Bradypterus cinnamomeus (Rüpp.).

Sylvia cinnamomea, Rüpp., N. Wirbelth. Taf. 42, fig. 1. *Salicaria cinnamomea, Id.,* Syst. Uebers. No. 125, *b.* *Calamoherpe cinnamomea,* Bp., Consp. Av. i. p. 286; Heugl., Syst. Uebers. No. 188.

Ex olivaceo rufo-umbrinus, subtus pallidior, magis olivaceo-fulvus, gula et abdomine medio albicantibus; pileo, nucha et regione parotica olivaceo-cano lavatis; stria supraoculari alteraque infraoculari et ciliis fulvescente albidis; macula obsoleta anteoculari nigricante; scapis regionis paroticæ ex parte albidis; remigibus fumosis, dorsi colore marginatis; alis brevibus rotundatis; cauda longa, valde graduata dorso concolore at ex parte ferrugineo tincto et delicate fasciolato; scapis rectricum fuscis; rostro nigricante corneo, pedibus cerino corneis; iride pallide umbrina.

Long. tot. 6″, rostr. a fr. 5¼‴–5⅛‴, al. 2″ 3‴–2″ 6‴, caud. 2″ 5‴–2″ 9‴, tars. 10‴–10½‴.

This species comes nearest to the South-African *Bradypterus brachypterus* (*Sylvia brachyptera,* Vieill.), with which it agrees in the slender bill, general coloration, the structure of the wings and tail, as also in the soft dishevelled plumage. But in the Abyssinian species the tail is still more graduated, and the tail-coverts shorter. The first primary of the short, much rounded, wings is about half as long as the fifth to tenth inclusive, which are the longest; the fourth a little shorter than the fifth; the second is somewhat shorter than the longest cubital remiges. The feet are stouter than in *S. brachyptera,* and the bill a little shorter and stronger. One specimen has more of a rusty-yellow tint than that described.

As we ascend the high Alps of Semien, the Guna, or the plateaux of Begemeda, Lasta, and the Galla country, the wanderer is greeted from a blooming bush of roses or *Hypericum,* or from a thicket of *Erica* hung with long grey beards of lichen, by the far-resounding, metallic-ringing song of this little bird, which appears to be a permanent resident in Abyssinia; at least we found it from December to the beginning of the summer rains. It lives, by preference, concealed in sunny bushy slopes, and in the bushes along icy torrents, in which it glides to and fro like a Willow-Wren. It more rarely comes on the ground, but, when it does, hops about with elevated tail, catching insects. Its manners and movements much resemble those of the Nightingale, but especially remind me of *Aedon galactodes.* The pairing-time appears to occur in January or February; the male then sings diligently, often until far into the night, and begins again long before day-light, even when the Alpine vegetation is covered far and wide with frost and ice.

It appears to be very nearly allied to *Phlexis layardi,* Hartlaub (Ibis, 1866, p. 139, pl. vi.).

To *Bradypterus* belong also *Cettia africana,* Bp., *Bradypterus brevirostris,* Sund. (Œfv. 1850, p. 103), and *Salicaria affinis,* Hodgs., all unknown to me.

Genus AEDON, Boie.

4. AEDON GALACTODES (Temm.).

Sylvia galactodes, Temm. *Turdus arundinaceus,* var. *β,* Lath. *T. rubiginosus,* Meyer. *Aedon familiaris,* Ménétr. *A. minor,* Cab., Mus. Hein. i. p. 39; Rüpp., Syst. Ueb. No. 125, *c*; Heugl., Syst. Ueb. No. 219; *Id.,* Faun. Roth. Meer, No. 67, Brehm, Habesch, p. 289; Hartm., J. f. O. 1863, p. 232; A. v. Homeyer, *ibid.* 1863, p. 263, 1864, p. 321.

Called "Bulbul" in Arabic, as is *Pycnonotus arsinoe.*

Supra cinnamomea, uropygio, supracaudalibus et rectricibus læte rufis; loris et stria superciliari albidis, illis medio longitudinaliter fuscescentibus; remigibus fumosis extus rufescente fimbriatis intus basin versus hepatico fulvescente limbatis, apice albido marginatis; tertiariis pallidius fumosis marginem versus rufescente lavatis, apice obsolete albido marginatis; rectricibus ($\frac{1}{1}$ medianis exceptis) ante apicem late album macula majore nigricante notatis; tectricibus alæ primi ordinis sordide et magis conspicue, minoribus obsoletius pallido limbatis; genis albidis rufescente fulvo lavatis; gastræo sordide albido, ex parte rufescente lavato, pectoris lateribus purius rufescentibus, subalaribus albidis; rostro et pedibus flavescente corneis, pedibus magis incarnatis; iride pallide umbrina.

Long. rostr. a fr. 5‴–6·7‴, al. 2″ 11‴–3″ 2‴, caud. 2″ 4‴–2″ 8‴, tars. 9‴–11¼‴.

I am not able to detect any specific distinction between *Aedon galactodes, A. familiaris,* and *A. minor.* Brehm says he observed *A. minor* in the coast-country of Abyssinia. The specimens collected by me near Masana and on the Adail coast are, indeed, perceptibly smaller than Egyptian examples; the other characters, again, suit better with *A. familiaris*.

According to the dwelling-places, season, and age, the principal colour varies between a bright rusty and light cream-colour or light reddish-grey. The black spots before the tip of the rectrices are sometimes large, angular, and sharply defined, and sometimes smaller, rounded, and indistinct; the white tips themselves and the light borders of the wing-coverts are sometimes very fresh and broad, sometimes faded, discoloured, and worn; in one specimen, of this species, the whitish superciliary streak is sharply marked, in others scarcely indicated. South-European examples may be on the average considerably larger than Egyptian specimens. *A. minor*, from Abyssinia, again, is smaller than specimens from Egypt, and the bill is also weaker. I give the measurements of such a bird from the Berlin Museum:—Bill 6″ 2‴; wing 2″ 10‴, tail 2″ 5‴, tarsus 11‴. On the other hand, the difference in the primaries described by Dr. Cabanis does not occur.

This may be a stationary bird in the districts of Southern Arabia, the Samher and Adel Coasts, and also probably in Abyssinia. On the contrary, it is a bird of passage in Egypt, Nubia, and East Sudan, where it usually arrives between the 10th and 15th of April, migrating southwards again in September. It lives in gardens, reed-thickets, cotton-fields, mimosa-woods, hedges, and ditches, and usually shows less preference than the Nightingale for very shady and dense underwood; it also differs from the Nightingale in its song and call-note, and in its general behaviour. It pleases by its rather shy and yet lively nature, which somewhat reminds one of that of a Thrush. It often flutters quickly from twig to twig, up to the very top of a tree, constantly moving, spreading, and closing its tail; soon it is seen running about briskly upon the bare ground, or under the bushes and dry grass, hunting for worms and caterpillers; suddenly it emits a Thrush-like cry of fear, and flies noisily into the bushes. The birds of each pair keep together; the breeding-business begins as early as the end of April. As to its nesting-place the bird is not particular; and we found the nest in pomegranate-, cotton-, and tamarisk- bushes, upon low mimosa-trees half-concealed in grass, and in thin hedges, in gardens, and the immediate vicinity of buildings and the busy noise of men, as well as in deserted solitary places, or in quiet mimosa-groves. It resembles that of the Blackcap, consists of fine grass, rootlets, horsehair, wool, and so forth; occasionally, but rarely, small twigs are interwoven in it. The structure is slight and not very thick or artificial. The bird does not appear to lay more than four eggs; and I believe that it usually makes two nests, even when the first is not disturbed. In coloration the eggs have nothing in common with those of the Nightingale; they rather resemble those of certain Reed-Warblers, and of the Wagtails. The young, as regards coloration, are scarcely different from the adults. The sides of the breast are shaded with rusty-reddish, and indistinctly spotted.

Although differing in many respects, I should arrange *Aedon* next to the *Malurinæ*. Dr. Hartmann states that he has observed *Aedon galactodes* in Lower Egypt still singing at the end of November, whilst at this season of the year the bird was never met with by me north of the rainy limits.

Found also on the Gold Coast (Mus. Stuttg.), and in Algeria (Loche, Tristram).

5. Aedon leucoptera (Rüpp.).

Salicaria leucoptera, Rüpp., Syst. Ueb. tab. 15 and No. 125, *d*; Heugl., Syst. Ueb. No. 220; Bp., Consp. Av. i. p. 286.

Saturate cinnamomea, subtus alba, regione mystacali et pectore obsolete fumoso-canescente striatis; hypochondriis læte ferrugineo indutis; capite supra cerviceque canis, collo laterali pallidiore; stria anteoculari fuliginosa, altera superciliari altera suboculari et ciliis albis; stria obsoleta mystacali alba; alis nigricante fumosis, tectricibus et cubitalibus conspicue et late albo marginatis; remigibus majoribus pogonio interno basin versus albicantibus; subalaribus albo et fumoso variis, rectricibus læte cinnamomeo rufis, scapis basin versus intense rufoflavis; fascia rectricum apicali lata obsolete nigro-fusca, prima secunda et tertia late albo terminatis, pogonio externo primæ, apice albo excepto fumoso, albo limbato; rostro fusco, dimidio basali mandibulæ flavo; pedibus pallide corneis; iride fusca.

Long. tot. 6½″, rostr. a fr. 6½‴, al. 2″ 10‴, tars. 1″, cauda 2″ 9‴.

The fourth primary is the longest, the third a full line, and the second 5 lines shorter; the fifth, sixth, seventh, and eighth remiges scarcely shorter than the third. Tail only slightly graduated.

Has hitherto been found only in Shoa, where this Warbler, which is very remarkable for its coloration, appears to be rather rare. Most nearly allied to *Erythropygia pectoralis*, Smith, from South Africa.

Genus Drymœca, Swains.

6. Drymœca rufifrons.

Malurus rufifrons, Rüpp., N. W. tab. 41, fig. 1. *Drymœca rufifrons*, Rüpp., Syst. Ueb. No. 121; Heugl., Ibis, 1859, p. 340, Faun. Roth. Meer, No. 62; Brehm, Habesch, No. 287; Hartl., W. Afr. p. 169.

Fronte cinnamomeo-rufa; pileo, nucha, collo postico et laterali, interscapulio et tergo cinereo murinis; alis umbrino murinis, tectricibus et tertiariis albido limbatis; gutture, subalaribus et subcaudalibus albis; pectore et abdomine læte flavicante albis; tibialibus rubiginosis; rectricibus fusco nigricantibus, delicate fasciolatis, extima margine laterali et macula majore apicali, binis sequentibus macula apicali albis; rostro nigricante; iride ochracea; annulo periophthalmico nudo læte rubiginoso-flavido; pedibus rubello-ochraceis.

Long. tot. 4″ 6‴, al. 1″ 7‴, caud. 2″ 2½‴, tars. 8¼‴, rostr. a fr. 5‴.

The fifth and sixth remiges the longest; the first about half as long. In this species the naked ring round the eye is very remarkable, somewhat swollen, and very brightly coloured, as in *Sylvia melanocephala*; it is not mentioned by Rüppell, Brehm, or Hartlaub. The coloration of the tail is also aberrant.

This brisk and lively Warbler, which renders itself remarkable by its shrill melodies, inhabits, according to my observations, only the west coast of the Red Sea, from latitude 17° N., the bay of Tedjura, and the Somali coast, and occurs usually in pairs in acacia-thickets and on euphorbias and stapelias. Dr.

Brehm says that he found this species very abundantly upon the plateau of Mensa (4000 to 6000 feet); but in opposition to my friend's statement, it is of this species that I would least of all assert that it is "a Sedge-Warbler in its whole being and nature." Its song, call-note, general mode of life, and dwelling-place show, in accordance with the peculiar form of the bill and formation of the wings and tail, that *Drymœca* and *Calamoherpe* are not so very nearly allied. Indeed I am inclined to think that Brehm had not this species before him at all. I know this exceedingly delicate little bird, easily distinguishable at the first glance by its long black rectrices from all its allies, only as a rare inhabitant of the coast-region; and if it were "very abundant" in Mensa, its occurrence there could not possibly have escaped me.

Found also on the Gaboon (Du Chaillu).

7. DRYMŒCA MYSTACEA.

Drymœca mystacea, Rüpp., Syst. Ueb. No. 122 and tab. 10; Heugl., Syst. Ueb. No. 167; Bp., Consp. Av. i. p. 283. *Drymœca affinis*, Smith, Ill. Zool. S. Afr. tab. 77 (?); Hartl., W. Afr. No. 166 (et No. 167 ?).

Supra ex cinerascente fulvida, alæ tectricibus et tertiariis magis fumosis et conspicue ochraceo marginatis; uropygio fulvescenti-albido; tectricibus caudæ superioribus ochraceis; rectricibus valde augustatis et elongatis pallide fumosis, dorsi colore lavatis et marginatis, extimis pallidioribus, subalbicantibus, omnibus ante apicem sordide albidum macula obsoletiore nigricanti-fumosa notatis: subtus albicans, lateraliter magis fulvescente adumbrata; ciliis albidis; loris et stria supraoculari pallide fulvescentibus; macula anteoculari obsoleta fumosa; remigibus fuliginoso fumosis, pogonio externo delicate rufescente fulvo, interno basin versus pallide fulvo marginatis; rostro cerino flavicante, pedibus rubellis; iride pallide umbrina.

Long. tot. 4″ 7‴–5″, rostr. a fr. 4‴–4·9‴, al. 1″ 9½‴–1″ 11‴, caud. 2″ 6½‴, tars. 9‴–9¼‴.

In many specimens the bill is more mouse-coloured, with an olive-greyish tint.

This species is pretty widely distributed in North-east Africa; it was observed by us in Central and Southern

Abyssinia, in Sennaar, and on the Sobat, White, and Gazelle Rivers. It lives usually in pairs, in bushes and dry grass, if possible in the vicinity of water, and ascends in Abyssinia to 10,000 feet above the sea-level. It is particularly abundant about Lake Tana, and near Gondar. It is, like its allies, a lively, active little bird, with a loud and agreeable song. Like most of the Bush-wrens, this species presents two distinct rictal bristles on each side.

Found also in South Africa (Smith); and West Africa, Abomey (Fraser).

7 *a*. DRYMŒCA SUPERCILIOSA.

Drymœca superciliosa, Swains., W. Afr. ii. p. 40, pl. 2. *Drymœca affinis*, Smith, S. Afr. tab. 77, 1 (?).

Simillima *Drymœcæ mystaceæ*, at minor, supra magis rufescente tincta, uropygio subrufescenti-fulvo; margine remigum, tectricum alæ et rectricum pallide rufescenti-fulvidis; tibialibus magis rufescenti lavatis.

Long. tot. circa 4¼″, rostr. a fr. 4½‴, al. 1″ 8¼‴, tars. 7¾‴, caud. 2″ 1‴.

A bird obtained by us in the month of December in Sennaar, now in the Museum at Stuttgart, perfectly agrees in size and colour with a specimen in the Berlin Museum marked "*Drymœca gracilis*," from Senegambia. But the plumage of the latter, which I should regard as *D. superciliosa*, Sw., is more faded, the bill somewhat shorter and stronger, and the tail about 1‴ shorter. An example in the Stuttgart Museum labelled "*Malurus gracilis*," from South Africa, which may be identical with *Drymœca affinis*, Smith, is likewise not essentially different from either of the above-mentioned—the wing measuring 1″ 8·8‴, the tail 2″; and I found in this South-African specimen only one, instead of two rictal bristles. It is possible that the southern and western forms coincide with *Drymœca mystacea*, Rüpp.; and in this case the synonymy would take the following form:—

Drymœca superciliosa, Swains. (1837); *D. mystacea*, Rüpp. (1845); *D. affinis*, Smith (1849); *D. gracilis*, Hartl. W. Afr. No. 167 (1857).

Dr. Finsch regards *Cisticola tenella*, Cab.*, from Eastern Africa, as identical with *Drymœca superciliosa*. The shorter tail of the former, as well as its somewhat longer tarsi, seem to me to be against this view; moreover the rectrices are somewhat broader, the bill longer, the colour above lighter smoky-brown, and the blackish subterminal spots on the rectrices more strongly marked. I measure the original specimen as follows:—Bill nearly 5‴, wing 1″ 7‴, tarsus 9‴, tail 1″ 7‴. Swainson and, following him, Hartlaub give the following measurements for *Drymœca superciliosa*:—

Length 4½″, bill $\frac{4}{10}$″, wing 1$\frac{8}{10}$″, tarsus $\frac{8}{10}$″, tail 2$\frac{3}{10}$″, which, converted into French measure, gives—length nearly 4″ 3‴, bill 5½‴, wing 1″ 8⅕‴, tarsus 9‴, tail 2″ 2‴.

7 *b*. DRYMŒCA MURINA, nob.

Similis *Drymœcæ mystaceæ*, paulo minor, rostro graciliori nigricante; supra ex toto sordide at saturate fuscescente murina, pileo saturatius tincto; tectricum alæ et tertiariarum marginibus ochraceis albis; remigibus extus delicate albicanti-, basin versus rufescenti-marginatis; stria superciliari, ciliis et loris magis conspicue et magis abrupte albidis; gastræo minus fulvescenti lavato; area magna utrinque pectorali murina.

Long. 4½″, rostr. a fr. 4⅓‴, al. 1″ 10‴–1″ 11‴, caud. 1″ 10½‴, tars. 7½‴–8‴.

A permanent resident in Abyssinia, met with toward the north as far as the Bogos country, where this form, which is very similar to the true *D. mystacea*, lives in bushes and tall dry grass. Rüppell appears to regard it as the female of the preceding; I think, on the contrary, that we must separate the two birds, at least provisionally, the differences in the coloration of the plumage and bill being too remarkable and constant. Moreover, in all examples of the true *D. mystacea* examined by me, I find no trace of the large, although not sharply defined, patch upon the sides of the breast, which is very strikingly shown in *D. murina*. The bill is very dark smoky-brown. Specimens in the Museums at Frankfort and Stuttgart.

* [We cannot recollect having met with a description of this species. —Ed.]

8. Drymœca clamans.

Prinia clamans, Rüpp., N. W. Atl. tab. 2, fig. a. *Drymœca clamans,* Rüpp., Syst. Ueb. No. 116; Heugl., Syst. Ueb. No. 179; Bp., Consp. Av. i. p. 283; Lefeb., Abyss. Ois. p. 166.

Occipitis plumis et tectricibus alarum nigris, conspicue albo marginatis; nucha pallide cana; interscapulio, scapularibus et marginibus tertiariarum læte cinnamomeo-isabellinis; tergo et uropygio purius isabellinis; ciliis, loris, genis et gastræo flavicante albidis; remigibus pallide fumosis, extus strictissime albo marginatis, intus basin versus flavescenti-albicantibus; rectricibus, valde elongatis et graduatis, canis, ante apicem latum album late et conspicue nigricantibus, ex toto delicate fasciolatis; rostro læte corneo flavicanti, apice nigricanti; iride helvola; pedibus rubello flavidis.

Long tot. 4¾″, rostr. a fr. 4‴, al. 1″ 9½‴, caud. 2″ 2‴, tars. 7½‴.

Occurring in pairs in Southern Nubia, in Northern Sennaar, and especially in Kordofan. Like its congeners, this species, which is remarkable for its charming colouring, lives in thorny bushes intermixed with tall grass. The song and call-note resemble those of *Drymœca gracilis.* Also found by Lefebvre in Northern Abyssinia in the province of Schirié.

9. Drymœca gracilis.

Prinia gracilis, Rüpp., Atl. tab. 2, fig. 6. *Drymœca gracilis,* Rüpp., Syst. Ueb. No. 117; Heugl., Syst. Ueb. No. 178, Ibis, 1859, p. 340; Antin., Cat. p. 37; Cab., Mus. Hein. i. 44; Bp., Consp. Av. i. p. 283. *Burnesia lepida,* Blyth, Ibis, 1865, p. 44.

Supra umbrino cinerascens, nigricanti striolata; subtus sericeo albida ex parte tergæi colore lavata; loris et ciliis albidis; remigibus et rectricibus fumosis, illis pogonio externo ex rufescenti cano-umbrino marginatis; subalaribus albidis, fulvescenti-tinctis; rectricibus valde elongatis et graduatis, macula fumoso-nigricante ante apicem album notatis; $\frac{1}{1}$ medianis subconcoloribus, omnibus delicatissime fasciolatis; rostro cerino corneo, apice et culmine magis fusco; iride helvola; pedibus rubello-flavicantibus.

Long. tot. vix 5″, rostr. 4¼‴, al. 1″ 7‴–1″ 8‴, tars. vix 8‴, caud. 2″ 1‴–2″ 2‴.

In many examples there is a distinct dark striation of the flanks, which in others is completely effaced.

Abundant, in pairs, in Egypt northwards nearly to the Mediterranean, in Arabia Petræa, Nubia, Takah, and the Bogos country, particularly abundant along the Nile and its canals, in gardens, hedges, acacia- and palm- groves, reeds and tall grass, is a permanent resident and breeds in Nubia in June, July, and August, but much earlier in Egypt. The small, elegant, and rather deep nest, which is constructed of dry grass-stalks and rootlets and lined with the wool of plants and hairs, is placed low down in palm-bushes and thorny shrubs. The three or four eggs are 6‴ to 7‴ long, and 5‴ in breadth, spotted and marbled all over, upon a white ground, with light yellowish- or rusty-brown, while in general a dense ring of darker spots surrounds the larger end.

This elegant species is a very lively little bird, which appears to quit its station very unwillingly. Thus it dwells harmlessly in the bushes, climbs dexterously up and down the grass-stalks, and glides and hops briskly through the thicket; sometimes it descends upon the ground and runs about seeking insects among the herbage. The tail is generally carried high, and sometimes expanded, especially when the bird calls, or emits its loud, ringing and metallic song. The call-note may nearly be represented by "quick-quick." The males seem to be of a very jealous nature, and often pursue each other with cries, and fight whilst flying in circles.

Found also in Syria, Asia Minor, and India. Dr. Hartlaub's statement that this species occurs on the Senegal rests on an error.

10. DRYMŒCA PULCHELLA.

Prinia pulchella, Rüpp., Atl. tab. 35 *a*. *Drymœca pulchella*, Rüpp., Syst. Ueb. No. 118; Heugl., Syst. Ueb. No. 177. *D. sylvietta*, Heugl., J. f. O. 1863, p. 165; Bp., Consp. Av. i. p. 283.

Supra olivaceo murina, genis et gastræo pallide subsulfureis; loris striaque superciliari pallidis, aurantiaco-flavo lavatis; alis dilute fuscescenti-cinerascentibus, tertiariis secundariis et tectricibus pallide subolivascenti-marginatis; rectricibus nigricanti-fuliginosis et delicate fasciolatis, extima pogonio externo vix toto maculaque apicali cuneiformi albis; sequentibus extus albo-marginatis, apice macula triquetra alba plus minusve distincta notatis; medianis concoloribus;

subalaribus albidis, flavido lavatis; rostro rubenti-flavido, culmine et apice maxillæ nigricante; iride helvola; pedibus flavo rubellis.

Long. tot. 4″, rostr. a fr. 3·8‴, al. 1″ 7‴, caud. 1″ $9\frac{1}{4}$‴, tars. 7‴.

♀ Minor, pallidius tincta, marginibus exterioribus cubitalium magis cinerascentibus.

An aberrant form, with a rather phyllopneustine bill; the colouring also resembles that of *Phyllopneuste*. The fourth primary is the longest, the third scarcely shorter. The rather long rectrices are narrow, and the tail is rather strongly graduated.

Lives singly, and in pairs, in Southern Kordofan, Western Sennaar, and along the Abiad and Gazelle Rivers, generally in thorny bushes or upon acacias and nebeq-trees. Song and call-note very clear, like those of *Drymœca clamans*.

11. DRYMŒCA IODOPTERA, Heugl. J. f. O. 1864, p. 258.

(Plate I. fig. 2.)

Supra delicatissime ex purpurascente hepatico-cinerea, pileo vix saturatiore, cervice purius cærulescenti-cinerea, uropygio et supracaudalibus læte ochraceis, his apice rufo lavatis; tectricibus alarum purpurascenti-hepaticis, lætius purpurascenti rufo marginatis; remigibus et tertiariis cinerascenti-fumosis, læte rufo marginatis, illis intus basin versus pallide hepatico-albido limbatis; rectricibus tergæo concoloribus, exterioribus pallidius fumosis, medianis rufescenti-, extimis basin versus magis fulvescenti-marginatis et ante apicem albicantem macula obsoleta fumosa notatis; genis delicate cinerascentibus; gula albida; gastræo reliquo delicate fulvescenti-, abdomine postico saturatius rufescenti-ochraceo lavato; rostro rufescenti-cerino; iride helvola; pedibus rufescenti flavidis.

Long. tot. 5″–5″ 5‴, rostr. a fr. 6‴$\frac{1}{5}$–7‴, al. 1″ $11\frac{1}{2}$‴, caud. 2″ 2‴, tars. 9‴–$9\frac{1}{3}$‴.

One specimen of this species, which is very strongly marked by the striking liver-grey colour of its back and bright purple-red wing-coverts, as also by its long, strongly curved and yet powerful bill, shows no trace of dark spots at the tip of the tail, the feathers of which are narrow. The wings are short and rather acute, and do not extend much beyond the root of the tail.

Observed rarely in the forest-region of the most central parts of Africa, in the provinces Bongo and Dembo in April and August. It lives singly in dense bushes intermixed with tall grass, and has a loud and pleasant song. It appears to me nearest to *Drymœca erythroptera,* which, however, has a much shorter blackish bill and considerably longer remiges, but a rather shorter tail.

Specimens in the Museums at Stuttgart and Leyden.

12. DRYMŒCA MARGINATA ; *Drymœca marginalis,* Heugl., Syst. Ueb. No. 175.

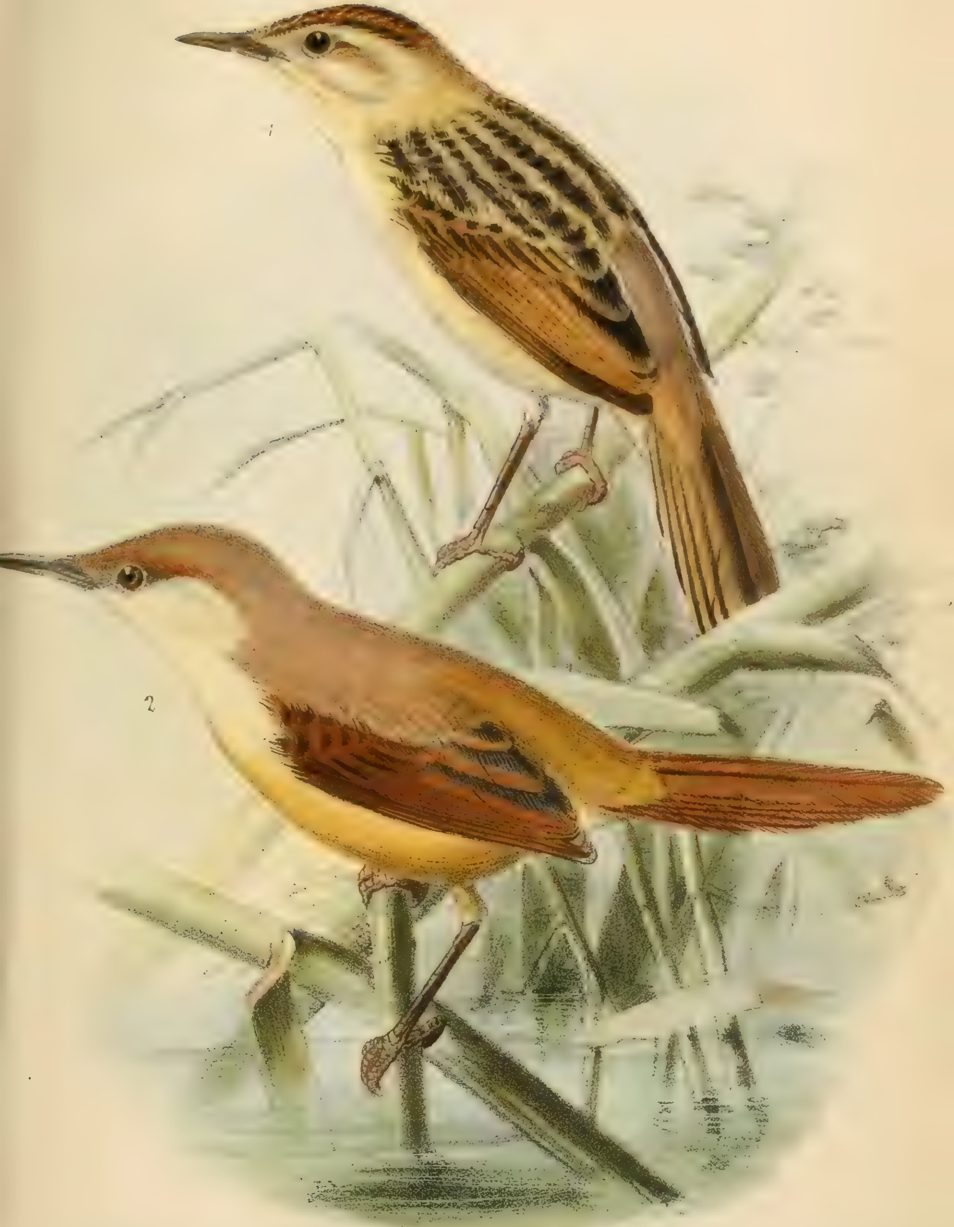
(Plate I. fig. 1.)

Pileo et nucha læte rufescenti-fulvis, illius plumis maculis medianis latis nitide umbrino nigricantibus notatis; cervice pallidiore immaculata ; interscapulio, tergo, scapularibus, tectricibus alarum primi ordinis tertiariisque læte nigris, late et conspicue pallide fulvo marginatis, tertiariarum marginibus internis magis albidis, externis et tectricum majorum marginibus magis rufescenti-indutis; uropygio et supracaudalibus cervinis, immaculatis; rectricibus $\frac{1}{1}$ medianis medio longitudinaliter fumoso nigricantibus, late at nec abrupte fulvo-cervino marginatis, apicem versus macula obsoleta nigricante instructis; reliquis fumoso canis, pogonio externo magis cervinis, ante apicem albidum nigricanti-notatis; remigibus pallide fumosis, pogonio externo (apice excepto) stricte rufescenti-cervino-, intus basin versus hepatico albido-marginatis; tectricibus alæ minoribus cano fulvis, medio fumosis; subtus ex fulvescente sericeo albida, gula et abdomine medio purius albis, pectore, hypochondriis, crisso et cruribus lætius rufescenti-fulvo adumbratis; loris fulvescenti-, ciliis pure albis; rostro cerino corneo, maxilla magis fusceseente; iride helvola; pedibus rubellis.

Long. tot. 4″ 10‴, rostr. a fr. 5·2‴–5·6‴, al. 1″ 10‴–2″, caud. 2″–2″ 2‴, tars. 8·8‴–8·9‴.

Like *Drymœca erythrogenys,* but much smaller, the bill rather shorter and much more curved, feet, wings, and tail considerably shorter, the vertex bright light-brownish rusty-yellow, with much broader brownish-black spots on the shafts, which disappear on the nape, where they are broadest and closest together in *D. erythrogenys*; the bright rusty fawn-coloured margins of the feathers of the greater wing-coverts and tertial remiges are much broader and still more distinctly marked, those of the inner

Ibis 1869. Pl. I.



M.T. von Heuglin pinxt
J. G. Keulemans lithogr

M & N Hanhart imp.

Fig 1. DRYMŒCA MARGINATA. Fig 2 D. IODOPTERA

vanes of the latter broadly white or yellowish-white; the duller fawn-coloured upper tail-coverts are not streaked with black; eyelids and middle of throat and belly tolerably pure white.

Lives in pairs in the reed-thickets of the Upper Abiad and Gazelle Rivers and on the Lower Bahr el Djebel, from which, especially in the morning, we frequently heard the song and call-note of this bird.

Described from three specimens differing very inconsiderably from each other in the Museums at Vienna and Stuttgart. Dr. Finsch regards *Drymœca marginata* as identical with *Drymœca erythrogenys*, but without having directly compared the birds. It is impossible to confound them.

13. DRYMŒCA ERYTHROGENYS.

Drymœca erythrogenys, Rüpp., Syst. Ueb. tab. 12 and No. 125; Heugl., Syst. Ueb. No. 176; Bp., Consp. Av. i. p. 184. *D. bizonura*, Heugl., Syst. Ueb. No. 176.

Capite supra et cervice læte cervino fulvis, stricte nigricante striolatis; auchenio pallidiore; scapularibus, interscapulio, tergo et tertiariis nigris, late et conspicue fulvo striatis; uropygio fulvo immaculato; tectricibus caudæ superioribus rufescente fulvis, conspicue nigro striatis; rectricibus nigricante fuliginosis, subtus canescentibus, extus late fulvo marginatis, ante apicem fulvo albidum late nigricante notatis, deinde pallidioribus; remigibus fumosis, extus (apice excepto) læte cinnamomeo marginatis, intus basin versus sordide rufescente fulvo limbatis; stria obsoleta superciliari fulva; loris fulvescente albidis; macula obsoleta anteoculari fumosa; subtus fulvescente albida, genis, hypochondriis cruribusque lætius rufescente lavatis; pectoris lateribus nigricante striolatis; rostro cerino corneo, culmine et apice magis fusco; iride helvola; pedibus cerinis.

Long. tot. 5½″, rostr. a fr. 5¼‴–6‴, al. 2″ 4½‴–2″ 5½‴, caud. 2″ 6‴, tars. 9½‴.

The rectrices, especially the two middle pairs, have nearly the whole of their outer vanes yellowish fawn-coloured, and their inner vanes more smoky-blackish, like the shaft, and a very narrow stripe along the latter on the outer vane; the rectrices are sometimes washed with yellow upon the ground-colour of the upper surface.

Lives in pairs in the Abyssinian Mountains at from 5000 to 10,000 feet above the sea-level, especially in isolated thickets, in wooded ravines, and torrents, sometimes also in tall grass. The song is very loud and variable. I have some reason to think that this bird may really coincide with *D. lugubris* (Rüpp.), and that it is to be regarded as the young of the latter species, but I have have no definite data upon this point. The coloration is very different, but not the structure of the tail or the distribution of colour upon it, especially the indication of the triple band at the tip. For the present I cite the two forms as specifically distinct.

14. DRYMŒCA CANTANS.

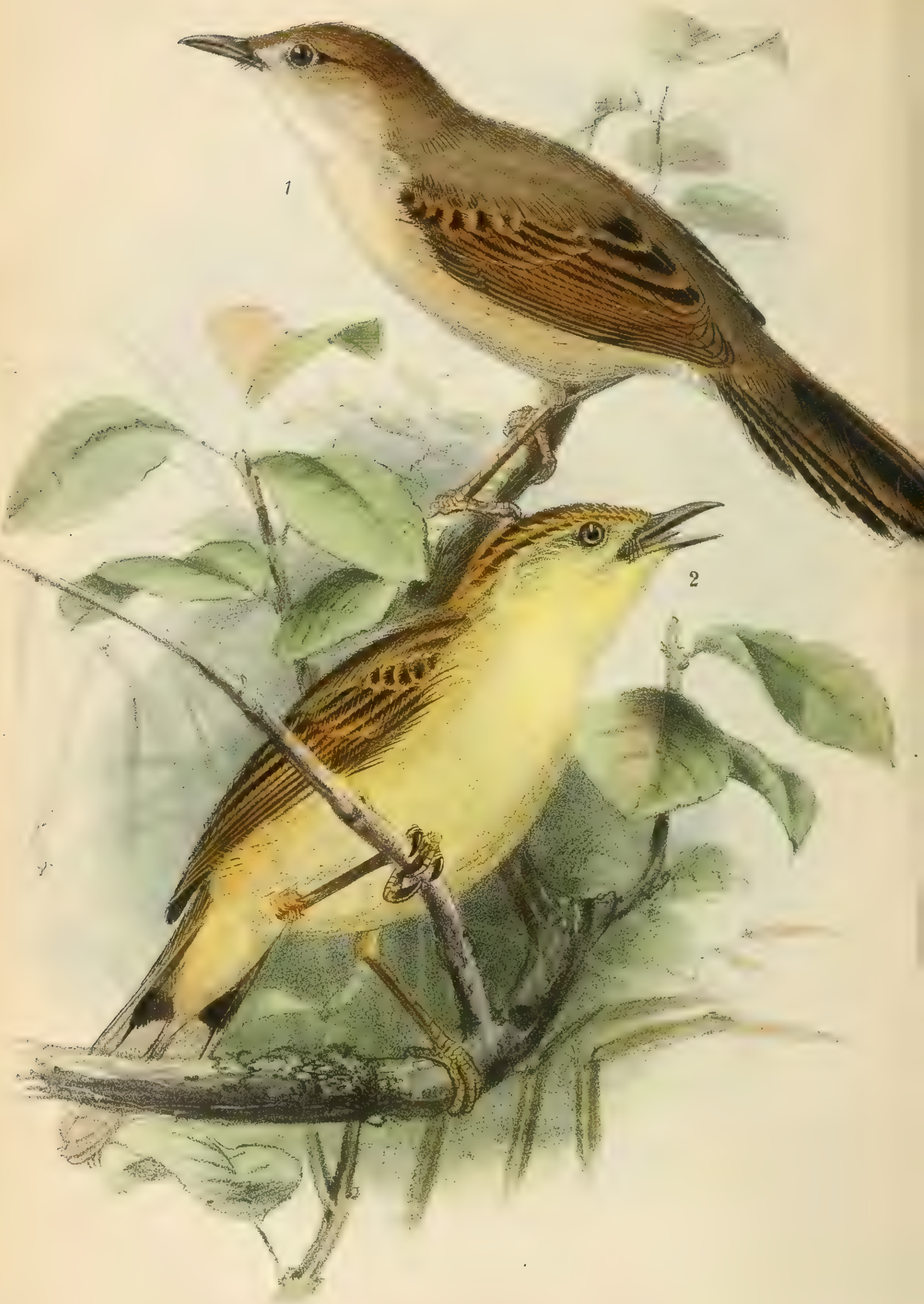
Drymœca cantans, Heugl., Syst. Ueb. No. 174. *D. lugubris* ?, Heugl., J. f. O. 1861, p. 194.

Media; pileo et nucha saturate umbrino rufis, immaculatis; loris et superciliis latis, conspicuis, fulvescenti-albidis; interscapulio, scapularibus et tergo fuscescenti-canis, conspicue fusco-nigricante striatis; uropygio et supracaudalibus ex olivaceo cano fulvescentibus, immaculatis; tectricibus alarum cano-fumosis, pallide marginatis, minoribus magis cano tinctis; tertiariis saturate fumosis, dorsi colore dilute marginatis (marginibus in plerisque aut rufescenti-, aut sordide fulvescenti-lavatis); rectricibus fumosis, extus, basin versus, magis conspicue rufescenti-marginatis, intius basin versus ex hepatico-fulvo limbatis, rectricibus latusculis, ex olivaceo cano umbrinis, vix pallidius marginatis, $\frac{5}{5}$ extimis apice late albis, omnibus macula anteapicali nigricante notatis; subtus ex fulvescente albicans, vix olivaceo lavata; gula purius alba; lateribus pectoris canescente tinctis; tibialibus rufescentibus; rostro fuscescenti-corneo, mandibulæ tomiis pallidioribus; iride helvola; pedibus cerino rubellis, hypodactylis griseis.

Long. tot. 5″ 2‴, rostr. a fr. 4·8‴–5‴, al. 2″–2″ 1$\frac{3}{4}$‴, caud. 2″ 2$\frac{1}{2}$‴–2″ 5$\frac{1}{2}$‴, tars. 9‴.

This species, established upon six specimens in the Museums at Stuttgart, Frankfort, and Vienna, is distinguished from *Drymœca lugubris* by the distinct whitish superciliar streak, much brighter brownish-rusty vertex and nape, the lighter-coloured and less distinct streak on the shafts of the mantle, by the sides of the breast and the tail-coverts being spotless, the

Ibis. 1869 Pl. II.



M. T. von Heuglin pinxt
G Keulemans lithogr

M & N. Hanhart

Fig. 1. DRYMŒCA CONCOLOR. *Fig* 2. D. FLAVEOLA.

much broader rectrices with a double apical band, by its rather smaller size and more curved but scarcely stronger bill. The tint varies, however, considerably. The birds, before moulting, which seems to take place in the beginning of the year, are of course less brightly marked; the rusty-red of the vertex and the margins of the remiges especially then becomes more of a cinnamon-colour; the mantle becomes of a dingy mouse-colour with a slight tinge of brown and a very obsolete dark striation.

This bird has a tolerably wide range in Abyssinia. We found it in Tigré and Semién, as also in the basin of Lake Tana, at from 5000 to 11,000 feet above the sea-level. It lives singly, and in pairs, in thickets on the borders of the torrents and stony islets, in the bushes and high grass, appears to be a permanent resident, and is distinguished by its excellent ringing song.

A similarly coloured but somewhat larger bird in the Frankfort Museum exhibits an obsolete dark striation on the vertex, narrower rectrices, and stronger feet; its measurements are:—wing $2''\ 5\frac{3}{4}'''$; tail $2''\ 2'''$; tarsus $10'''$; but I doubt whether it is to be referred to *D. cantans*.

According to a communication by letter from Dr. Finsch, *Drymœca cantans*, Heugl., = *D. subruficapilla*, Smith; but neither the figure nor the description and measurements given by Smith justify this supposition. My bird is rather larger; has a much more powerful bill, a whole-coloured vertex not streaked with brown, and a longer, much broader, and less graduated tail. The measurements of *D. subruficapilla*, according to Smith, are:—Length $5''$ (French measure); wing $1''\ 10\frac{1}{2}'''$; tail $2''\ 1\frac{1}{2}'''$; and it has blackish streaks on the sides of the breast.

15. DRYMŒCA CONCOLOR, nob.

(Plate II. fig. 1.)

Similis *Drymœcæ cantanti*, Heugl., at lætius tincta, tergo interscapulio et scapularibus ex olivaceo saturate murino umbrinis immaculatis; tectricibus alæ et tertiariis fumosis obsolete et nec abrupte cinnamomeo rufescente marginatis; cauda lata conspicue rufescente lavata; genis rufescentibus; stria supraoculari et loris pallidioribus; ciliis albidis. Occipite et nucha ex olivaceo rufis, immaculatis; genis eodem colore lavatis; macula anteoculari vix distincta fumosa;

rectricibus latiusculis umbrino murinis, pogonio externo rufescente lavatis, infra canis; margine angustiore apicali albido, conspicue cinereo lavato; macula anteapicali nigricante; gastræo albido, lateraliter olivaceo fulvescente tincto; subalaribus fulvidis; tibialibus ex olivaceo rufescentibus; rostro corneo-fusco, dimidio basali mandibulæ flavicante: pedibus cerino rubellis.

Long. tot. circa $4\frac{3}{4}''$, rostr. a fr. vix $5'''$, al. $2''$, caud. $2''\ 1'''$, tars. $9\frac{1}{4}'''$.

Exceedingly like *Drymœca cantans*; the bill rather stronger; above in general much more brightly coloured, and the mantle without any trace of streaking, although the specimen described appears to have freshly moulted. The wing-coverts and tertials, moreover, show a perfectly different coloration: with a tolerably deep smoky ground, they are rather broadly (but not sharply) bordered with ferruginous, and exhibit no broad, dark spots on the shaft.

From North-east Africa, probably from the White Nile (certainly not from Abyssinia). In the Berlin Museum.

16. DRYMŒCA FLAVEOLA, Heugl., Syst. Ueb. No. 166, and J. f. O. 1862, p. 289.

(Plate II. fig. 2.)

Supra læte rufo-cervina (cervice excepta) late et conspicue nigricante striata; supracaudalibus purius rufis, obsolete fusco striolatis; tertiariis et tectricibus alæ late et circumscripte cervino rufescente marginatis; remigibus fumosis, extus cinnamomeo marginatis, intus basin versus pallide hepatico limbatis; rectricibus fuliginoso canis, medianis cervino fulvo marginatis, omnibus apice late rufescente albis, fascia anteapicali $3'''$–$5'''$ late nigricante notatis; ciliis, loris et gastræo læte virenti-flavicantibus; fronte et tectricibus alæ minoribus eodem colore tinctis; pectoris lateribus et hypochondriis olivaceo rufescente adumbratis; crisso, cruribus et subcaudalibus rufescenti-ochraceis; margine alari et subalaribus extimis pallide viridi-flavescentibus, medianis pallide hepaticis; rostro cerino, culmine magis fusco; pedibus rubello cerinis; iride helvola.

Long. tot. $5''\ 4'''$, rostr. a fr. $5'''$, caud. $2''\ 3'''$, al. $2''\ 3\frac{1}{2}'''$, tars. $10'''$–$11'''$.

This species is distinguished by the bright light-greenish-yellow colour of the throat, breast, and abdomen. The broad, blackish spots at the tips of the rectrices are produced downwards along the shaft, somewhat like an arrow-head.

We found this species only in the environs of Adowa, in Abyssinia, upon moist places overgrown with bushes and rushes, at an elevation of from 5000 to 7000 feet above the sea. It climbs about like a Sedge-Warbler upon the stalks, or balances itself whilst singing or calling upon their tips. In the nestling-plumage the blackish striation on the vertex and mantle is more indistinct, and the crissum more whitish. The breeding-time seems to be in the month of November. At the beginning of December we found young birds of this species, scarcely able to fly, upon *Cyperus*-bushes on the margin of a large marsh.

17. DRYMŒCA ROBUSTA.

Drymœca robusta, Rüpp. (nec Blyth), Syst. Ueb. No. 123, and tab. 13; Heugl., Syst. Ueb. No. 172; Lefébv., Abyss. Ois. p. 89; Bp., Consp. Av. p. 283.

Major; capite supra cerviceque tota læte et saturate umbrino rufis, hac pallidiore, illius plumis medio late fusco nigricanti striatis; macula anteoculari obsoleta fumosa; loris, ciliis, striaque lata superciliari fulvescenti-albidis; interscapulio, tergo, uropygio et supracaudalibus, scapularibus et tectricibus alæ minoribus fusco nigricantibus conspicue pallide fulvo-, tectricibus alæ minoribus et uropygii plumis magis fulvo-canescenti-marginatis; tertiariis nigricantibus, extus stricte et late rufescenti-, intus paulo angustius fulvescenti-albido marginatis; tectricibus alæ majoribus fusco-nigricantibus, albido marginatis, albedine marginali plus minusve rufescenti-lavata; remigibus fumosis, basin versus extus rufescenti-, intus magis hepatico-fulvescenti-marginatis; rectricibus latis, truncatis, supra fumosis, medianis magis nigricantibus, infra canescentibus, rufescente marginatis, $\frac{1}{1}$ medianis exceptis ante apicem fulvescenti-albidum late nigricante notatis; genis et gastræo fulvescenti-albidis, colli lateribus et hypochondriis magis ochraceo lavatis; crisso, subcaudalibus et tibialibus lætius ex rufescente fulvo-ochraceis; pectoris lateribus plus minusve cano lavatis; rostro fusco-corneo, dimidio basali mandibulæ flavido; iride helvola, pedibus rubellis.

Long. tot. 6¼″–6½″, rostr. a fr. 5½‴–6‴, ab ang. or. 9‴, al. 2″ 10½‴, caud. 2″ 5‴, tars. 12‴–13‴.

The third, fourth, fifth, and sixth remiges the longest; the first 12‴-13‴, the second 3‴ shorter than the tip of the wing.

This rare species is contained in the Museums of Frankfort, Vienna, Paris, and Stuttgart. The description is from five specimens, remarkably similar in proportions and coloration, and all obtained from central Abyssinia and Shoa. It appears to be most nearly allied to *Drymœca procerula*, Sund. (Œfvers. 1850, p. 104), which seems to be distinguished by its lighter forehead, and the absence of rusty colour on the vertex and nape, as also upon the pointed rectrices.

Drymœca robusta, like its congeners, lives generally in pairs, upon pastures and among the low bushes. Each pair seems to take possession of a tolerably wide domain; nevertheless these birds lead a rather concealed and quiet life, although they are not shy, and when pursued endeavour rather to escape by hopping and gliding through the covert than by resorting to flight. It probably does not migrate; yet we met with this species only between the months of December and May, and at an elevation of from 5500 to 8000 feet above the sea.

18. Drymœca malzaci, Heugl., Syst. Ueb. No. 173.

Similis *Drymœcæ robustæ*, Rüpp., at minor; rostro multo breviore et altiore, magis arcuato; pedibus gracilioribus; albedine apicali caudæ multo angustiore; pileo et cervice in fundo fulvescente (nec læte rufo) fusco nigricante striatis; coloribus ex toto obsoletioribus, at scapularibus, interscapulio et tertiariis lætius fulvo marginatis; margine tectricum alæ primi ordinis ex canescente fulvo albida, nec rufescenti-lavata; tibialibus, crisso et subcaudalibus pallide fulvidis, nec læte rufescenti-ochraceis; tergo et uropygio fulvo-cervinis. Notæo fusco-nigricante, plumis conspicue et pure fulvo marginatis; tectricibus alæ minoribus in fundo fuliginoso late fulvo-cano-limbatis; stria obsoleta superciliari, ciliis, loris et gastræo fulvescenti-albidis, gula et abdomine mediis purius albidis; pectoris lateribus pallide olivaceo-fuscescenti-, hypochondriis magis ochraceo lavatis; remigibus extus, apice excepto, pallide rufescenti-fulvo marginatis; rectricibus medianis saturate fumosis, reliquis obscurius fumoso-canis, fulvescente marginatis; scapis rectricum pallidis; rectricibus omnibus ante apicem angustiorem albidum nigricante notatis; rostro pallide incarnato cerino corneo; pedibus rubello cerinis; iride fusca.

Long. tot. 5¾″, rostr. a fr. 5½‴, ab ang. or. 7¾‴, al. 2″ 6‴, caud. 2″ 2‴, tars. 10½‴.

I regard this bird, of which, however, I have only one specimen before me, as specifically distinct from *Drymœca robusta*: the much lighter bill is shorter, much more curved and much higher than in that; on the vertex and nape the bright brownish-rusty colour is entirely wanting and replaced by tawny-yellow; the nape-feathers show a pretty distinct dark striation; the mantle-feathers are margined with bright tawny-yellow; the rump likewise tawny-yellow, spotless; the much broader margins of the rectrices of the same colour. The white apex of the tail is only half as broad as in *D. robusta*, and the blackish spot is distinctly visible on the median pair of feathers. Of the remiges the fifth is the longest; the fourth scarcely, and the third notably shorter; the under tail-coverts reach to the tip of the first rectrices, while in all the specimens of *D. robusta* before me they are from 4‴ to 6‴ shorter.

I obtained the bird described, which was determined to be a male, through the French traveller, M. A. de Malzac, who killed it in March on the lower Bahr el Djebel, near Djak, in the district of the Kidj negroes. We never met with *Drymœca robusta* in the region of the White Nile.

19. DRYMŒCA LUGUBRIS.

Drymœca lugubris, Rüpp., Syst. Ueb. No. 124, and tab. ii.; Heugl., Syst. Ueb. No. 164; Lefébv., Ois. Abyss. p. 89; Bp., Consp. Av. i. p. 283. *Drymœca bizonura*, Heugl., Syst. Ueb. No. 176.

Similis quoad figuram *Drymœcæ erythrogeni*, at caüda breviore, apice purius trifasciata; pileo obsolete fumoso cano, rufescenti lavato; cervice obscuriore, obsolete fuscescenti-varia; interscapulio et scapularibus fuliginoso nigricantibus, plumis indistincte fuscescente cinereo marginatis; uropygio et supracaudalibus fuscescente canis, his ex parte nigricante striolatis; tertiariis et tectricibus alæ nigricante fuscis, stricte et obsolete fulvescenti-albido marginatis; remigibus fumosis, extus basin versus magis magisve cinnamomeo marginatis, intus rufescenti-fulvo limbatis; rectricibus fusco nigris ($\frac{1}{1}$ medianis pallidioribus), ex cano fulvescente marginatis, ante apicem albidum fascia nigricante, deinde basin versus fascia altera, 5‴ lata, fulvescente notatis; genis cano fulvescentibus; stria superciliari et ciliis pallide fulvis: subtus fulvescente albida, pectoris lateribus obsolete nigricante striolatis; rostro fuscescente corneo, mandibula flavicante; iride helvola; pedibus rubello cerinis.

Long. tot. 5½″, rostr. a fr. 6·1‴, al. 2″ 4⅓‴, caud. 2″ ½‴, tars. 10‴.

A species distinguished by the unspotted brownish-grey vertex tinged with ferruginous, especially towards the forehead, the dull grey margins of the mantle-feathers, and the peculiar marking of the tail. The ground-colour of the rectrices is smoky or smoky-black; at the tip a rather narrow white spot, sometimes washed with yellowish-grey, appears; above this a blackish transverse band nearly 3‴ broad, and above this again an ochraceous band nearly 5‴ broad, which is very distinctly marked upon the inner vane. The sides of the face are dull mouse-grey or ochraceous; the eyelids and superciliary streak very light ochreous-yellow; the loins in some specimens are of a greyish tinge.

The description is from the original specimen in the Senckenbergian Museum, which was probably killed in Eastern Abyssinia. It lives, according to Rüppell, singly in thickets and thin shrubberies on the plateau of Abyssinia.

20. Drymœca antinorii, Salvad., Heugl. J. f. O. 1867, p. 202.
" *Drymœca* . . . . . ?," Antin., Cat. p. 37.

" Major; supra unicolore rufo-fuliginosa, subtus albida, hypochondriis et subcaudalibus isabellino rufescentibus; rectricibus fusco-rubescentibus, lineis minutissimis indistincte transversim striatis; pogonio interno atque partim externo apicem versus, macula nigra notato; remigibus obscuris, rufo marginatis; rostro corneo, robusto, incurvo; iride fusca."

"Fu ucciso da me il 10 aprile del 1861, fra i cespugli che erano attorno ad un piccol lago per entro la tribù degli *Elwasch*, fra il 7 e 6 L. N., nello interno del Gazal."—Antin. *l. c.*

According to a communication from De Filippi this species, which is no longer to be found in the Museum at Turin, resembles *Drymœca ruficeps*; the bill is robust and much curved.

21. DRYMŒCA RUFICEPS.

Malurus ruficeps, Rüpp., Atl. tab. 36. *Drymœca ruficeps,* Rüpp., Syst. Ueb. No. 120; Bp., Consp. Av. i. p. 283; Hartl., J. f. O. 1861, p. 110; Heugl., Syst. Ueb. No. 169; Cass., Proc. Ac. Phil. 1859, p. 37 (?).

Capite supra, cervice et supracaudalibus cinnamomeis, concoloribus; loris, ciliis, stria superciliari, gastræo et subalaribus albidis, isabellino lavatis; macula anteoculari obsolete pallide fumosa; interscapulio et scapularibus migricanti-fuscis, lateraliter obsolete ex rufescente fulvo-albido marginatis; tertiariis saturate nigricanti-fuscis, late et conspicue pallide fulvescente-marginatis; remigibus et tectricibus alæ fusco-fumosis, his fulvescenti marginatis, margine exteriori basin versus magis magisve cinnamomeo rufescenti, illis late fulvescenti-limbatis; rectricibus saturate fumosis, infra canescentibus, pogonio externo basin versus cinnamomeo marginatis, $\genfrac{}{}{0pt}{}{5}{5}$ exterioribus ante apicem late album macula subrotundata nigricante notatis, prima pogonio externo vix toto albo; tibiis cinnamomeo lavatis; rostro læte cerino corneo, culmine et apice magis spadiceo; iride helvola; pedibus rubello flavidis.

Long. tot. 4½″–4¾″, rostr. a fr. 4½‴–5‴, al. 2″ 1‴–2″ 2‴, caud. 1″ 8‴–1″ 9‴, tars. 8‴–9‴.

The fourth primary is the longest, the third to the seventh nearly equal to it, the second 2‴ and the first 9½‴ shorter than the tip of the wing. The tail rather broad and much graduated, the outermost tail-feathers 7‴ shorter than the middle ones.

This species inhabits Kordofan, the lower district of the Abiad, Sennaar, Takah, Abyssinia, and probably also southern Nubia. It lives in pairs in the bushes and dry tall grass, not only along the streams, but also on the steppe and in the forest-region. It is a very lively little bird, whose agreeable song and Sedge-Warbler-like call-note is very often heard. It does not migrate. We did not meet with this species in the coast-country of Abyssinia; in the mountains it probably ascends above 7000 feet.

Said also to occur on the Caama and Ogobia Rivers in West Africa (Du Chaillu) (??).

21 *a*. Drymœca leucopyga, Heugl., Syst. Ueb. No. 170.

Similis *Drymœcæ ruficipiti*, at robustior, rostro longiore, validiore, corneo nigricante; pileo, cervice et supracaudalibus saturatius fuscescenti-rufis; uropygio late fulvescenti-albido; cauda magis obtusa, subtus minus conspicue albo notata; rectricis extimæ pogonio externo delicate albo marginato, nec toto albo; interscapulii plumis, scapularibus et tertiariis obscurioribus, vix nigris rufescenti-fulvo marginatis.

Long. tot. 5¼″, rostr. a fr. 5½‴, al. 2″ 2½‴, caud. 1″ 9½‴, tars. vix 9‴.

Whether this form is really to be separated specifically from *Drymœca ruficeps* must be left for the present undecided, as I have not at hand the necessary number of specimens for comparison. We killed it in Semien up to 11,000 feet, in Galabet and Eastern Sennaar, where it occurs chiefly in the savannas.

21 *b*. Drymœca scotoptera, Sundev. Œfvers., 1850, p. 129.

"Superne grisescens maculis dorsi magnis nigris; uropygio rufescenti-fusco. Caput superne cum cervice obscure fulvo-rufescens, postice obsolete fusco maculatum. Gastræum immaculatum, albido fulvum, gula ventreque medio purius albis. Remiges extus fuscescentes, vix pallido marginatis; cauda minus elongata pennis superne fusco-nigricantibus, apice pure albis, obtusis, basin versus rufescenti fusco-limbatis; 2 mediis immaculatis; 4½–5 poll.; al. 5·2 mm.; t. 20; c. 45; r. a fr. 11. Affinis *D. ruficipiti*, Rüpp., sed minor; rostrum fortius, culmine sat arquato. E Sennaaria allata."—Sundev. *l. c.*

The measurements reduced to Paris inches and lines give:—Wing 1″ 11‴, tarsus 9‴, tail 1″ 8‴, bill from the forehead 5‴.

Not examined by me.

21 *c*. Drymœca fulvescens, Sundev., Œfvers. 1850, p. 129.

"Similis *D. scotopteræ*; pictura ejus omnino, sed color ubique magis fulvescens. Caput superne, alæ extus, uropygium et limbi rectricum rufescenti-fulva. Dorsum fulvescens, maculis nigris. Gastræum totum pallide fulvescens. Rectrices apice pure albæ, subacutæ.

"Ala 50, tars. 21, c. 45, r. a. fr. 12, forma præcedentis.

"*Habitat* in Sennaaria."—Sundev. *l. c.*

The measurements reduced give:—Wing 2″, tarsus 9·2‴, tail 1″ 8‴, bill from the forehead 5·2‴.

As regards the general coloration and structure of the tail, apparently most nearly allied to the next species.

21 *d.* DRYMŒCA CORDOFANA, nob.

Similis *D. ruficipiti*, at rostro fusco longiore, magis arcuato, alis brevioribus; cauda magis graduata, pro mole longiore; tergi et interscapulii colore obsoletiore, magis rufescente; uropygio postico albido.

Long. tot. circa 4¼″, rostr. a fr. vix 5‴, al. 1″ 9½‴, tars. vix 8‴, caud. 1″ 8‴–1″ 9‴.

Described from an old male from Kordofan, in the Museum of Stuttgart. I do not venture to unite this form also with *D. ruficeps*, although it is very nearly allied to it. Its bill is much more slender, broader at the base, with the culmen sharper and far more arched. Before the white tip of the first tail-feather there is a blackish spot, which usually appears to be wanting in *D. ruficeps*.

22. DRYMŒCA SIMPLEX, nob.

Similis *Drymœcæ ruficipiti*, at pileo dorso concolore (nec rufescente), obsolete fuscescenti-striolato; rostro longiore, altiore; alis brevioribus; supracaudalibus pallide cinerascenti-fuscis (nec rufis); digito externo breviore. Supra pallide cinerascenti-fuscescens; pileo fuscescente striolato; interscapulio et scapularibus magis conspicue fumoso nigricante striatis; remigibus fumosis, pogonio externo obsolete pallide marginatis; tertiariis et tectricibus alæ majoribus fumoso nigricantibus, rufescenti-fulvo marginatis; uropygio albicante; rectricibus medianis fuscescentibus, vix rufescenti-lavatis; reliquis magis cano-fuscescentibus, ante apicem albidum, cano lavatum, nigricante notatis; gastræo fulvescenti-albido, loris, gula et abdomine medio purius albis, pectoris lateribus fulvescente-cano adumbratis; rostro pallide incarnato corneo, culmine fusco; pedibus pallide fulvis; iride helvola.

Long. tot. circa 4¾″, rostr. a fr. 5·2‴, al. 1″ 11‴, caud. 1″ 10‴, tars. 9‴.

One would be led, on superficial examination, to regard the bird described as a somewhat faded young state of *D. ruficeps*, if the difference in the proportion of the toes were not observed; for the outer toe is shorter than the inner one, while in the other species the contrary proportion occurs. Moreover the vertex and nape are not bright ferruginous, but light greyish-brown, with narrow, not clearly defined, but yet tolerably distinct smoky-brown streaks on the shafts; the upper tail-coverts and margins of the rectrices are not bright ferruginous, but light greyish-brown.

Described from a specimen killed on the 6th February in the country of the Kidj negroes, on the Bahr el Djebel.

To a form very similar to this, probably still undescribed, and distinguished by the peculiar striation of the breast, in the museums of Stuttgart and Frankfort, I give the name of

DRYMŒCA VIRGATA. Pileo et nucha fusco rufescentibus, obsolete fusco striolatis; interscapulio, scapularibus, tergo et tectricibus alæ secundi ordinis umbrino canescentibus, conspicue nigricanti-fusco striatis; uropygio et supracaudalibus eodem colore dilute maculatis; tectricibus alæ majoribus et tertiariis fumoso nigricantibus, conspicue et late pallide rufescenti-griseo marginatis; remigibus saturate fumosis, pogonio externo rufescenti marginatis, interno basin versus hepatico fulvo limbatis; rectricibus saturate fumosis, conspicue rufescente lavatis, pallidius limbatis, $\frac{5}{5}$ extimis ante apicem albidum, cano lavatum, macula nigricante notatis; loris, genis et gastræo sordide albidis, lateribus pectoris et hypochondriis sordide umbrino canescente lavatis, genis et colli lateribus obsolete rufescente variis, pectore fuscescente striolato; tibialibus rubiginosis; subalaribus albidis, fulvo tinctis; rostro, ut videtur, cerino corneo, culmine magis fusco; pedibus et unguibus flavidis.

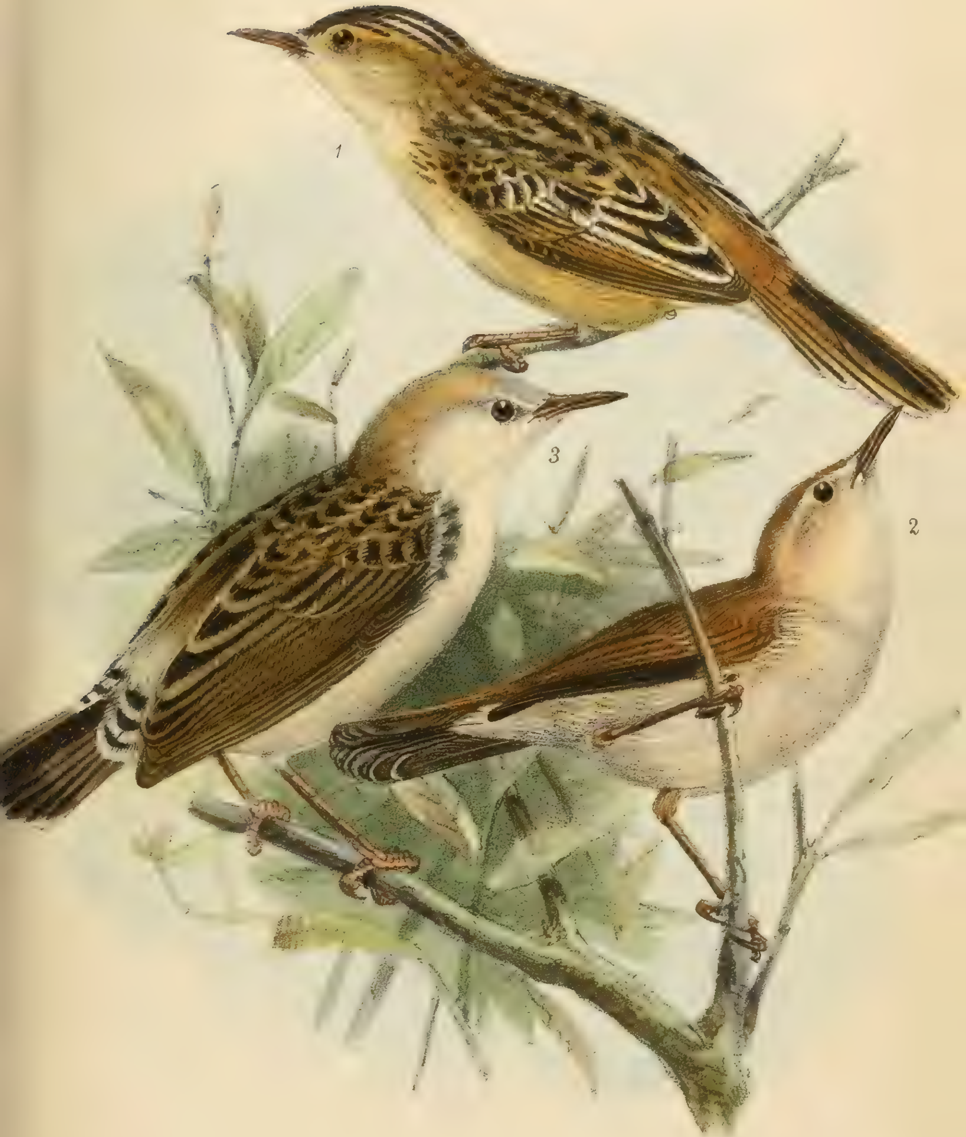
Long. tot. circa $4\frac{3}{4}''$, rostr. a fr. $4\frac{1}{2}'''$, al. $2''$, caud. $2''\ 2'''$, tars. $7'''$.

The outer toe is somewhat longer than the inner one. In the museum at Stuttgart as *D. levaillanti*, from the Cape, at Frankfort from West Africa.

23. DRYMŒCA EXIMIA, Heugl.

(Plate III. fig. 1.)

Habitu *Cisticolæ schœnicolæ*, at cauda angustiore, longiore, magis graduata, coloribus ex toto lætioribus; pileo, inter-



T. von Heuglin pinx
G. Keulemans lithog.

M & N. Hanhart imp

Fig. I. DRYMŒCA EXIMIA; *Fig.* 2 D. FERRUGINEA;
Fig. 3. HEMIPTERYX OLIGURA.

scapulio, scapularibus, tectricibus alarum et tertiariis nigerrimis, stricte et conspicue albido marginatis, marginibus ex parte rufo lavatis; stria superciliari, genis, cervice, uropygio et lateribus corporis læte fulvo-rufescentibus, cervicis plumis medio magis rufescenti-umbrinis; remigibus fumosis, primariis extus pallide rufescenti-fulvo, secundariis magis umbrino-rufescente marginatis; omnibus intus basin versus pallide rufescenti-fulvo limbatis; rectricibus fuliginoso nigricantibus, scapis rufescentibus, subtus fuliginoso canis, strictius albo terminatis, macula anteapicali nigricante, extima pogonio externo conspicue albo-, reliquis lateraliter lato cervino fulvo marginatis; albedine apicis rectricum supra cano lavata; ciliis et loris fulvescente pallidis, macula obsoleta anteoculari fumosa; genis paulo umbrino adumbratis; gastræo fulvo induto, gula et abdomine medio pure albis; crisso et subcaudalibus niveis; tibialibus læte rufis; pectoris lateribus ex parte nigricante striolatis; rostro cervino corneo, culmine magis fuscescente; iride helvola; pedibus rubello cerinis.

Long. tot. circa 4″ 3‴, rostr. a fr. 4·1‴, al. 1″ 10‴, caud. 1″ 8½‴, tars. 7½‴–8‴.

A very remarkable species, from its variegated coloration. With regard to its mode of life, I can unfortunately give no information; I found it in the month of February in reeds and bushes on the Upper Gazelle River. The only specimen obtained by me was sold by the Museum of Stuttgart to that of Berlin; it is an adult male. In form and marking it most resembles *D. lineocapilla*, Gould, from Australia, but has longer tarsi and wings, and rather shorter, narrower rectrices. Vertex, mantle, greater wing-coverts, and tertials deeply black, the latter rather brownish-black, all with white margins, partly washed with reddish-yellow, which, however, in the feathers of the vertex and mantle only run down the sides, and do not reach the tip; cheeks, lores, eyelids, nape, and rump bright rusty-red, the latter more rusty-yellow; the middle of the feathers of the nape indistinctly brown. Lower surface bright reddish-yellow, lighter in front; middle of the neck whitish; middle of the abdomen, under tail-coverts and vent snow-white. Outer and inner toes (without the claw) almost of equal length, the former perhaps somewhat shorter. It cannot be confounded with any other North-east-African species.

[To be continued.]

VIII.—*Notices of Recent Ornithological Publications.*

1. English.

Mr. Gould has produced two more parts of his 'Birds of Great Britain', the species treated of being as follows:—

Part XIII. August 1st, 1868.

Kite or Glead.
Marsh-Harrier, adult.
—— young.
Scops Eared Owl.
Tree-Creeper.
Great Grey Shrike.
Rose-breasted Shrike.
Snow-Bunting or Snowflake.
Grey Wagtail, in summer.
——, in winter.
Alpine Accentor.
Hedge-Accentor or Hedge-Sparrow.
Red-legged Partridge.
Spoonbill.
Gadwall.

Part XIV. September 1st, 1868.

Wood-Pigeon or Cushat.
Starling.
Hoopoe.
Yellow Wagtail.
Grey-headed Wagtail.
Linnet.
Wheatear.
Bar-tailed Godwit.
Black-tailed Godwit.
Little Auk.
Black Tern.
White-winged Tern.
Whiskered Tern.
Wood-Sandpiper.
Manx Shearwater.

The Rose-breasted Shrike now first makes its appearance in the character of a British species. It is the well-known *Lanius minor* of Southern Europe. A single example was obtained so long ago as the year 1851 on one of the Scilly Islands, and at the time was taken for a common *L. excubitor*, under which name its occurrence was recorded by Mr. Rodd (Zoologist, p. 3300). That gentleman subsequently perceived that it was something better, and in the 'Journal of the Royal Institution of Cornwall' for October 1867 (pp. 352, 353) announced it under its rightful name. He also submitted the specimen to Mr. Gould, whose figure in the present work is taken from it. Averse as we are to the practice of including every stray bird of foreign origin among those which are really inhabitants of the country, a more plausible claim may be set up for this Shrike than for many other species, since it may very well have occurred before and been overlooked. In his account of the Spoonbill, Mr. Gould omits any notice of the fact that it formerly used to breed in England (as witnessed by old Sir Thomas

Browne), and in that particular differed remarkably from the Stork, which was never more than an accidental visitor, however frequently it appeared. Respecting the range of the Gadwall, Mr. Gould has forgotten a statement in this Journal (Ibis, 1864, p. 132), wherein that species was undeniably shown, on Mr. G. G. Fowler's authority, to breed in Iceland. In conclusion, we trust Mr. Gould will pardon us for directing his attention to the fact that he makes occasional use of the so-called "names" of Brisson, a practice to be condemned by every upholder of the system of binomial nomenclature.

Two more parts of 'Exotic Ornithology'* have appeared since our last notice of the work (Ibis, 1868, p. 335).

In Part VII. are figured the following American birds:—

Leucopternis palliata.
Scops flammeola.
—— barbarus
Chætura semicollaris.
Porzana hauxwelli.
—— melanophæa.
—— albigularis.
—— leucopyrrha.

Leucopternis palliata, though long ago discovered by Natterer, and now not unfrequently to be seen in collections, has but recently been formally named and described by Herr von Pelzeln under Natterer's MS. appellation, which must take precedence of Mr. Gray's name *L. polionota,* also intended for this species, since that is unaccompanied by any description. *Scops flammeola* is a pretty little Mexican and Guatemalan species, which may be "annexed" by our friends in the United States to their own fauna, as undoubted Californian specimens, from Fort Crook, exist in the collection of the Smithsonian Institution.

Chætura semicollaris is a gigantic Swift, one of De Saussure's discoveries in Mexico. It appears to be rare, as none of the many collectors who have also visited that country within the last fifteen years have met with it. The four species of *Porzana* help to illustrate a group of birds upon which our friends the authors have lately been engaged (P. Z. S. 1868, pp. 442–470). Complete lists of the American species of the genera *Scops* and

* Exotic Ornithology. By PHILIP LUTLEY SCLATER, M.A. &c., and OSBERT SALVIN, M.A. &c. Parts vii. & viii. London: Imp. 4to.

Chætura are given, and also of that section of the Crakes to which Bonaparte applied the name *Laterirallus*.

The contents of Part VIII. are—

Fulica ardesiaca.
—— armillata.
—— leucopyga.
—— leucoptera.
Leucopternis semiplumbeus.
Geotrygon chiriquensis.
Cardinalis phœniceus.
Pyrgisoma leucote.
—— rubricatum.

The first four plates of this part represent four out of the six species of Coots which inhabit the southern portion of the South American continent. The intricate synonymy of these birds has been lately worked out by the authors in the Zoological 'Proceedings,' and additions and corrections made to Dr. Hartlaub's excellent memoir published in the "extra-Heft" of the 'Journal für Ornithologie' for 1853. *Fulica chilensis* turns out to be Tschudi's *F. ardesiaca* on comparison of the types of the two species. *F. stricklandi,* Hartl., appears to be the same as Azara's "Focha," *F. leucoptera,* Vieill. We hope some day to see a figure of the wonderful species from Potosi, described by Prince Bonaparte as *F. cornuta,* and afterwards generically separated by him as *Lycornis cornuta,* of which at present the only known specimen is in the Paris Museum. The figure of *Leucopternis semiplumbeus* finishes the series of this genus; and a complete synonymatic list is given of the eight species. In Part V. of this work (*cf.* Ibis, 1868, pp. 336, 337) the authors figured what they believed to be *Geotrygon chiriquensis,* and hoped that all difficulty respecting that species was removed; but unfortunately they now find that the bird there represented must be called *G. albifacies,* the true *G. chiriquensis,* of which a figure is now given, being a distinct species, as shown by the recent acquisition of specimens, and also by the rediscovery of the type of Mr. Sclater's original description. Unfortunately the synonymy is not yet closed, as Mr. Lawrence seems to have described the same species in a recently published catalogue of the Birds of Costa Rica, of which we hope to give an extended notice in a subsequent number.

The attractions of the Nile have already engaged the attention of several of the most valued contributors to this Journal, and have lately been set forth at some length by our excellent *confrère* Mr. A. C. Smith*. From a rigidly technical point of view, we might perhaps complain that the manner in which ornithology is treated by the author of these two handy little volumes is not such as to increase the knowledge of the science among those who use them. But who is there that has ever floated in a "dahabeah" who has cared for the most abstruse and recondite questions when lotus-eating? Such matters are left to be settled at home; and these volumes are especially intended for the Nile-traveller during his voyage. They will, we hope, induce many of our countrymen who annually visit the ancient and mysterious river, and content themselves with butchery on its banks, to pay greater attention than before to the proceeds of their bird-slaughtering expeditions, submitting their spoils to the inspection of friends at home for proper identification. We do not perceive any errors in Mr. Smith's determinations of species, so far as we can judge, not having examined his specimens; but we venture to suggest that of his unknown birds (vol. ii. pp. 275–278) no. 102 *may* be *Geronticus hagedash,* and no. 103 *G. calvus,* while no. 108 is, without much doubt, *Grus virgo.*

In conclusion we may remark that an Ornithology of Egypt still *se fait désirer;* and very welcome such a work would be. Might we, without impertinence, suggest the publication of a Hand-book of Egyptian Zoology to the Ray Society and Mr. Tristram when they have completed their present undertaking on the Zoology of Palestine?

That nearly a century has elapsed since any narrative of travels in Iceland should have been published in Sweden is an excellent reason why Professor Paijkull should give to his countrymen a narrative of his tour in that island. But considering the inordinate number of works of the same kind which have made their appearance in this country, it is astonishing that an English translator of his book* should declare that the island and its inhabitants "are comparatively but little known to us." However, there would be no need to call the attention of the readers of 'The Ibis' to this publication were it not for the fact that Mr. Barnard has thought fit to add to his translation, by way of 'Appendix,' a "List of the Animals, Birds, Fishes, Molluscs, etc., found in Iceland; extracted from 'The Voyage en Islande, par M. Gaimard.'" We generally know what we may expect when we find "Birds, Fishes, Molluscs, etc." treated as if they were not "animals;" and on the present occasion we have not been disappointed. The list Mr. Barnard prints is offered to his readers at *third* hand. He transcribes it (with a few errors and omissions) from the volume of M. Gaimard's series which is devoted to "Zoologie et Médecine" (pp. 161–166), and written by M. Eugène Robert, who gives it as an "extraite de Gliemann"; and sure enough the original is to be found in Gliemann's work (pp. 150–170), which is nearly fifty years old†. The absurdity of such a proceeding is manifest, and any further criticism quite unnecessary. Prof. Paijkull, being a man of science, feared to tread but on his own path; his translator rushes in, and most successfully displays his ignorance of almost every branch of zoology.

---

* The Nile and its Banks, a journal of travel in Egypt and Nubia, showing their attractions to the Archæologist, the Naturalist, and the general Tourist. By Rev. Alfred Charles Smith, M.A. London: 1868. 2 vols. sm. 8vo.

2. Dutch.

The supposition hazarded in our last number (Ibis, 1868, p. 476), that the ornithological portion of the work of Messrs. Schlegel and Pollen had come to an end, was premature, a Fourth and concluding *Livraison*‡ having lately made its appearance. This contains, besides a few pages wanted to complete the account of the birds collected by the Dutch naturalists, a commentary on Dr. Hartlaub's well-known and excellent little volume (*cf.* 'Ibis,' 1861, pp. 402–405), and several lists, one showing roughly the geographical distribution of birds in Madagascar and the neighbouring islands, and another the number of specimens from that subregion possessed by the Leyden Museum, amounting to upwards of 750. The commentary on Dr. Hartlaub disposes in a very off-hand manner of many species and genera of birds; and we cannot but think that a good many of the conclusions at which the authors arrive are such as they would not reach had they more evidence before them. With all its imperfections, however, the work will remain a lasting monument of the labours of Messrs. Pollen and Van Dam; and the plates are generally so well drawn that, unlike many monuments, it may always be contemplated with pleasure.

---

* A Summer in Iceland. By C. W. Paijkull, Professor of Geology at the University of Upsala. Translated by Rev. M. R. Barnard, B.A. &c. London: 1868. 8vo, pp. 364.

† Geographische Beschreibung von Island, von Theodor Gliemann. Altona: 1824. 8vo, pp. 232.

‡ Recherches sur la Faune de Madagascar et de ses Dépendances, &c. 2me Partie. Mammifères et Oiseaux, par H. Schlegel et François P. L. Pollen. Leyde: 1868. Roy. 8vo. (4me Livraison.)

3. GERMAN.

The appearance of the first section of Herr von Pelzeln's account of the late Johann Natterer's ornithological discoveries in Brazil* has already been chronicled, and a few words of well-earned commendation were bestowed upon it†. We take the opportunity of the issue of the second part of this work, which has lately been received in this country, to explain to our readers a little more fully its contents and objects, so that its importance may be more completely appreciated.

The late Johann Natterer was, as regards the class of birds to which he principally devoted himself, perhaps the most energetic and most successful collector that has ever lived. He dedicated the eighteen best years of his life to the exploration of various parts of the great empire of Brazil, and during this period accumulated a collection of no less than 12,293 birdskins, representing about 1200 different species. Every specimen was not only most beautifully prepared, but likewise provided with a ticket on which the locality and date of collection, sex, and the collector's number was inscribed in his own handwriting. At the same time a note-book was kept in which the colour of the iris, bill and legs, form of the tongue, contents of the stomach, and various other peculiarities were carefully registered, together with remarks on its habits and the distribution of the species. Natterer returned to Europe in 1835, but unfortunately died in the prime of life, before he had hardly commenced the publication of his numerous discoveries, leaving his enormous collections almost untouched in the drawers of the Imperial Cabinet of Zoology at Vienna.

---

* Zur Ornithologie Brasiliens. Resultate von Johann Natterer's Reisen in den Jahren 1817 bis 1835 dargestellt von AUGUST VON PELZELN, Custos an d. k.-k. zoologischen Cabinete in Wien. II. Abtheilung. Wien, 1868–69.

† Ibis, 1868, pp. 226, 227.

Until recently little had been done to render this valuable mass of material available for the purposes of science. But about ten years ago Herr August von Pelzeln, who had then lately succeeded to the charge of this part of the Imperial Collection, began to work out and describe the species of certain groups and to publish the results along with extracts from Natterer's MSS.* Stimulated by the favour which these papers have met with from ornithologists, and urged on by their solicitations, Herr von Pelzeln has now undertaken the great labour of preparing and publishing a complete catalogue of all the species collected by Natterer, together with descriptions of the novelties and extracts from the MS. notes of the deceased naturalist. Of this work we have the first two portions, containing the *Accipitres* and the *Passeres* down to the end of the *Dentirostres* (according to the Grayian System) now before us. The catalogue gives us not only a list of the species, with descriptions of such as are new, but likewise states the exact locality at which each specimen was obtained. To illustrate the geographical distribution still further, a tabular *résumé* is appended, in which the ground traversed by Natterer is divided into six principal "faunas," and the occurrence of each species in one or other of those "faunas" is indicated. These faunas, which are further illustrated by a map showing Natterer's routes, are as follows:—

---

* Herr von Pelzeln's numerous papers in the 'Sitzungsberichte' of the Vienna Academy, and in the 'Abhandlungen' of the Zoological and Botanical Association of Vienna, have been constantly referred to in 'The Ibis.'

1. *South-Brazilian Fauna*—from Curitiba and Paranagua, which were the most southern points attained by Natterer, along the coast-district up to Rio Janeiro, and the surrounding country. This fauna is all in the provinces of Sao Paulo and Rio, and is perhaps better known ornithologically in Europe than any other part of South America, from the large collections of birdskins made near Rio, and from the works of the late Prince Maximilian of Wied, Prof. Burmeister, and others. Natterer's first four journeys, from November 1817 to September 1822, were devoted to its exploration.

2. The *Central-Brazilian Fauna* embraces the basins of the streams which constitute the headwaters of the Rio Parana. Natterer traversed this district, which lies within the Brazilian provinces of Minas and Goyaz, in his fifth journey, in 1823 and 1824. Herr von Pelzeln assigns the Rio Araguay as the western boundary of this fauna; so that some portion of the watershed of the Tocantins is included in it. Natterer reached the Araguay in October 1824.

3. *The Bolivio-Brazilian Fauna.*—This title is given by the author to the portion of the province of Mattogrosso which was traversed by Natterer after crossing the Araguay on his route to Fort Principe de Beira, on the Guaporé. It embraces, therefore, portions of the watershed of the Tocantins, Paraguay, and Amazons, and includes what is generally called the "diamond-district" of Brazil. Natterer's longest sojourns in this district were at Cuyaba (in which city he stayed from December 1823 until June 1825) and Villa Bella de Mattogrosso (where he arrived in October 1826, not finally quitting it until July 1829). In Sao Vicente, near Villa Bella, on the 18th of June 1826, Natterer had the misfortune to lose his faithful assistant Sochor, and after that, we believe, travelled mainly alone. From Villa Bella Natterer descended the Guaporé to Fort Principe de Beira, embarking on the 15th of July, 1829, and reaching the latter point about the 9th of August.

4. *The Columbio-Brazilian Fauna.*—According to Herr von Pelzeln's views this Fauna includes the whole valley of the Madeira below Fort Principe, together with the main valley of the Rio Negro. Natterer, as we have already stated, passed Fort

Principe de Beira about the 10th of August 1829, and reached Borba, on the Lower Madeira, on the 24th of November. Here, and in this neighbourhood, he stopped until August 1830, and then commenced his eighth expedition up the Rio Negro. Leaving Borba on the 25th of August, he reached Barra de Rio Negro on the 10th of September, and remained there about two months. Thence he ascended the Rio Negro to San José de Marabitanas, the frontier fort of Brazil on the Rio Negro, which he reached on the 16th of January 1831. Hence excursions were made to the Venezuelan town of San Carlos, and up the rivers Xié, Içanna, and Vaupé. Finally Natterer returned to Barcellos on the 23rd of August.

5. *The Guiano-Brazilian Fauna.*—The author restricts this term (which in our opinion ought to include the whole valley of the Rio Negro, or at any rate its left bank) to the district of the Rio Brancho, which Natterer ascended soon after his return to Barcellos in the autumn of 1831. At Forte do S. Joaquim, on the confines of Guiana, he passed six months, and returned to Barra at the end of August 1832.

6. *Fauna of the Lower Amazons,* i. e. of the Amazons below Barra down to the sea-coast. Natterer did not finally leave Barra until July 1834, and reached Pará in September. The next year was devoted to the investigation of the district of Pará, after which the indefatigable traveller had purposed to work along the Brazilian coast-provinces of Maranhao, Rio Grande de Norte, Parahiba, and Pernambuco, and so back to Rio. But a popular disturbance, which broke out in Pará in 1835, caused him to alter his plans. His house and effects were plundered by the insurgents, and the fine collection of living animals destined for the Imperial Menagerie at Schönbrunn destroyed. On the 15th of September 1835, he embarked at Pará for Europe, and finally quitted the scene of his labours.

We may perhaps say that we do not quite hold to Herr von Pelzeln's views as regards these six "faunas," though there can be no question of the value of the tables he has prepared to illustrate the geographical distribution of the species. We think it would have been better to have made the divisions into "faunas" coincide with the river-basins. At any rate, as already remarked, the fauna of the Madeira should be separated from that of the Rio Negro. The former, though perhaps not actually divisible from the Upper-Amazonian fauna, presents us with many peculiar species, such as *Pteroptochus thoracicus, Odontorhynchus cinereus,* and *Pipra nattereri.* The latter, as shown by Messrs. Sclater and Salvin (P. Z. S. 1867, p. 593), is peopled with most of the familiar forms of the Guianan fauna, of which it is in fact a part.

The first part of Herr von Pelzeln's 'Ornithologie Brasiliens,' which appeared at the beginning of last year, contains a catalogue of the *Accipitres* and the Fissirostral and Tenuirostal *Passeres.* Twenty-one new species were described in it. The second part, which is just issued, contains the list of Dentirostral *Passeres,* with descriptions of 78 new species, besides many notes on, and redescriptions of, those imperfectly known. A third part is promised in the beginning of 1869; so that we cannot complain that this important work, so long delayed, when once taken in hand by its present accomplished editor, has been tardily performed.

4. PORTUGUESE.

Professor du Bocage, in the 'Jornal de Sciencias' of Lisbon, continues the valuable series of articles on the ornithology of the Portuguese possessions in West Africa which we have before noticed (Ibis, 1868, p. 345). This third paper on the subject consists of two lists—one of birds collected at Biballa and the the neighbourhood, the other of those obtained at Huilla, the furthest point in the interior to which the possessions stretch. Both these collections were formed by the indefatigable Sr. Anchieta, and together they contain examples, among many others, of five species described as new:—*Nectarinia ludvicensis, Drymœca anchietæ, Hirundo angolensis, Crateropus hartlaubi* and *Gallinago angolensis.* A description is also given of two specimens which appear to belong to the *Estrelda quartinia* of Bonaparte (Consp. Av. i. p. 461), a rare species, of which the only example hitherto known is in the Paris Museum and is said to have come from Abyssinia. The Professor agrees with Mr. Gurney (Ibis, 1864, p. 350, and 1868, p. 45) in maintaining the specific distinction of *Campephaga nigra* and *C. xanthor-*

noides, in opposition to the opinion of Dr. Hartlaub (Orn. Westafr. p. 99), who considered them to be identical.

5. AMERICAN.

The 'Proceedings of the Boston Society of Natural History' contain a "Synopsis of the Birds of South Carolina" by Dr. Coues, a very acceptable contribution to our knowledge of the North-American Avifauna, as since Catesby's time only one list of the birds of this State seems to have been published, and that list was confessedly nothing more than a compilation. Dr. Coues has had the advantage of making personal investigations, having passed two years at Columbia. He says:—

"The birds of South Carolina, with few exceptions, are the same as those of the South Atlantic and the Gulf States at large (exclusive of certain Texan birds). These exceptions are the Florida Jay, and the several species, not strictly North American, which visit the peninsula of Florida alone, mostly from the West Indies. It is not probable that South Carolina is the terminus of the autumnal emigration of any northern species. The lower swampy parts of Virginia rather represent such terminus; and any species which passes this boundary is likely to be found in winter any where in the South Atlantic States, exclusive, of course, of such species as pass entirely beyond the United States. And, although the Carolinas, in a general way, limit the northward extension of the few typical species of the South Atlantic States, the boundary may be more definitely placed in Virginia, along the line where the swampy changes to the higher country, which, as we have just seen, limits certain northern species in coming south."

Two hundred and ninety-four species are enumerated by Dr. Coues as occurring in South Carolina; and brief notes are appended to their names, containing much information on their distribution, particularly as regards the season of their appearance, which, coming from an authority so trustworthy, is eminently useful. The doctor has some remarks on the subject of Shrikes impaling their prey on thorns, which open a question of much interest. Speaking of *Lanius* or *Collurio ludovicianus* he says:—

"At Columbia, where the Loggerhead is a very common bird, frequenting the weedy streets and waste fields of the city, I have observed it on numerous occasions, and once witnessed the following: a Loggerhead was busily foraging for insects in the Capitol yard; from its observatory, on the top of a tall bush, it pounced upon a large grasshopper, and carried it to a tree near by, which was full of small, sharp twigs. Planting itself upon one of them, with the insect in its beak, the bird thrust the grasshopper upon a twig, pushing the latter quite through the insect's body by repeated forcible movements. After the grasshopper had been transfixed to the bird's satisfaction, the latter hopped to another part of the tree, where it remained for some minutes, apparently enjoying the writhings of the impaled insect, or at least waiting to make sure that it was firmly secured. This being evidently the case, the bird at length flew off, resumed its former station, and commenced to hunt for more grasshoppers. Within the next few minutes I saw it capture several more, all of which it ate upon the spot.

"I have not seen any satisfactory explanation of this strange habit of the Shrikes; nor am I prepared to offer any. Writers have drawn largely upon their imagination in treating of the trait. The facts at our command are conflicting, and do not furnish the basis for any very consistent theory as to the why or wherefore, or, particularly, the *cui bono* of such proceedings on the part of the bird. The commonly received doctrine, to the effect that Shrikes providently lay up in this way a store for future emergencies, is hardly tenable. In the case narrated above, the bird did not return to feast upon the grasshopper; for I purposely passed that way several days afterward, and saw the unfortunate insect still sticking there. Why did the bird impale it at all? It was evidently hungry at the time, for, as above stated, it at once recommenced foraging, and captured and devoured several more insects on the spot; and, moreover, the thousands of live grasshoppers that there were within a radius of as many yards, rendered such special pains in securing that one on a twig quite unnecessary. It may be as well to confess that we do not know the reason of this habit of the Shrikes; we can only say that it is 'a way they have.'"

We venture to invite the attention of our readers in various parts of the world to this subject. The cause of Shrikes' shambles is surely not a thing "past finding out."

IX.—*Letters, Announcements, &c.*

We have received the following letters addressed "To the Editor of 'The Ibis'":—

Simlah, 3 Sept. 1868.

Sir,—In 'The Ibis' for 1868 (page 79) Mr. Beavan gives *Corydalla richardi* as occurring at Simlah, and remarks that the specimens procured by him agreed well enough with Colonel Tytler's. Now, on examining these last, I find them to be examples of *Agrodroma sordida*. Some twenty years ago Mr. Blyth gave Col. Tytler an *Agrodroma sordida* ticketed "*Anthus richardi*"—the tickets of the two species, I suppose, having got exchanged owing to the ministering care of some intelligent native, and Mr. Blyth, before giving the specimen, having failed to see that all was right. This circumstance misled Colonel Tytler; otherwise a single glance at the hind claw would have been sufficient to separate the two species. In *C. richardi* it is from ·6 to ·95 in. in length, and nearly straight. In *A. sordida* it is about ·35 in. long, and moderately curved. I have never obtained *C. richardi* in the neighbourhood of Simlah. It breeds, I know, in Ladak, but it has not yet occurred in any of the collections made for me at Simlah and in its immediate neighbourhood, although in the cold season I have often procured it on the plains.

Further on (page 166) Mr. Beavan says that, according to Col. Tytler, *Corvus intermedius* breeds at Simlah in July and August; but the Colonel tells me that this is a mistake, as he never named those months as the breeding-time. As a matter of fact the species lays in May and June; and by the 10th of July this year the young had all flown, and every nest (and I had nearly a hundred searched) was empty.

In the same volume (page 306) Herr von Pelzeln describes a Falcon from Kotegurh, under the name of "*Falco communis*, Gm.", by which designation I suppose (though I am not sure) him to mean the species generally known as *Falco peregrinus* *.

---

* [Many ornithologists, it is true, use the name *F. communis* for *F.*

Now the blackish head and nape, with the rufous base of the feathers showing through in places on the nape, are alone enough to awaken my suspicion that this specimen is an example of *F. peregrinator*; and, as a fact, I believe we have here in Col. Tytler's museum the partner of this very bird, also from Kotegurh, and shot almost at the same time. I would remark that it is a mistake to suppose that all specimens of *F. peregrinator* exhibit in an equally marked degree the rufous underplumage. I have one specimen, an adult male, the whole lower parts of which, including the chin and throat, are of a pure bright (but not deep) chestnut. On the other hand, Col. Tytler has a fine male, an undoubted *F. peregrinator*, which has the chin, throat, and neck in front pure white, the ear-coverts and sides of the neck only having a faint salmon-coloured tinge towards the tip of the feathers. On the breast some feathers are nearly pure white, others, chiefly towards the sides, have a decided, but not deep, salmon-coloured tinge. The middle of the abdomen alone is of a pure salmon-colour, the vent is yellowish, and the sides, flanks, thighs, and lower tail-coverts have only a faint yellowish salmon-coloured tinge. The head, nape, and upper part of the back are positively black; there are the buff or rufous-buff patches on the nape, and the numerous comparatively narrow bars on the inner web of the first primaries. Yet as regards the rufous tinge, with the exception of the median patch on the abdomen, I have seen many examples of the true *F. peregrinus* more rufous.

I should like Herr von Pelzeln to examine the under surface of the first primary in his bird, and see if the white bars are not more numerous and, compared with specimens of apparently the same age, far narrower than they are in any true *F. peregrinus*. Moreover I would add that his specimen, if I am correct, is the female of the very male bird I have just described. *Falco pere-*

---

peregrinus; but others consider the "*Falco communis indicus*" of Gmelin to refer to the species subsequently called by Prof. Sundevall *F. peregrinator*. This is what Herr von Pelzeln seems to have done, but our correspondent's remarks make the differences between the species last mentioned and *F. peregrinus* so very clear that they will be read with interest.—Ed.]

grinator runs decidedly smaller than *F. peregrinus.* The wing of the male above mentioned is only 11·5 inches; and though Dr. Jerdon gives 13·5 as the length of the wing in a female, a very fine one that I shot near Lahore measured only 12·9.

There is a specimen, as pointed out by Mr. Gurney [Ibis, 1866, pp. 235, 236], in the British Museum which must closely resemble Herr von Pelzeln's bird and that which I have described. And there is another, mentioned by Dr. Jerdon, in the Asiatic Society's Museum, which is also of much the same type; but in all the intense blackness (as compared with any stage of *F. peregrinus*) of the head, nape, upper back and cheek-stripe, the buff or rufous base of many of the nape-feathers, the more numerous and, compared with individuals of the same age, narrower white or rufous bars on the inner web of the first primary, together with the smaller size, at once separate them as *F. peregrinator* from the true *F. peregrinus.*

If any one says that *F. peregrinator* is not worthy of specific separation, I reply, wait till you fly the bird. Work one against the best *F. peregrinus,* and mark how much greater the rapidity of the flight, and above all of the swoop of the "Shaheen," emphatically the "Royal" Falcon of the East. If greater powers of flight, combined with constant distinctions of plumage, such as I have above noted, and difference of *habitat* (for *F. peregrinator* breeds freely in Central and Southern India, *F. peregrinus* never, I believe) are not sufficient to constitute a species, we may at once have done with scientific nomenclature in ornithology. I am, &c.,

ALLAN HUME.

Simla, 6th October, 1868.

SIR,—The several phases of plumage that the young of many birds assume induces me to send you a brief notice of a few in my collection, which may not be altogether uninteresting. I have shot nearly the whole of the specimens to which my remarks refer myself, and so feel perfectly satisfied as to their sex, which was in every case ascertained by dissection.

TURDUS HODGSONI, Lafr.; Jerdon, B. Ind. No. 368.

1. ♂ *juv.*, from Cashmere. Length 11·5 in., bill from gape

1·25, wing 6·75, tail 5·25, tarsus 1·5. Head, neck, back, rump, tail, and wings rather light ashy-brown, darkest on the head, back, and wings, a white streak along the middle of the back-feathers, which are also faintly tipped with black. Back of the head, neck, and cheeks faintly dotted with white. Quill-feathers blackish-brown, edged with light brown, a white patch on the bend of the wing; several of the upper wing-coverts with a white middle and tip; under wing-coverts pure white, becoming dusky towards the under tail-coverts. Throat, breast, and abdomen with the tip of each feather blackish brown, giving the appearance of round drops. Bill and legs brownish horn-colour.

2. ♂ *juv.*, from Mundhole, shot in July. Length 8·5 in., bill from gape 1·125, wing 5·125, tail 3, tarsus 1·25. In colouring very like the last, except that it is lighter and the markings are very distinct. This example was following its mother when I shot them both. The female is of a uniform slaty-brown above, devoid of all the markings that the young have on their back; but the wing-feathers are edged with whitish, the breast-spots are more elongated, and the spots on the abdomen darker, larger, and more numerous.

The resemblance which this species bears to the European *Turdus viscivorus* is very great, but there is a decided difference between the two species. For instance a young male of the European bird in my collection, to all appearance about the same age as No. 1, above described, is of a much lighter and more rufous-brown than the Indian; the head also is more considerably albescent, as is the upper part of the back, and both are dotted with blackish-brown, darkest on the back. There is also a well-defined dark superciliary streak, of which the Indian specimen has no trace. In the European bird the secondaries and some of the other wing-feathers are broadly edged with rufous-white, and the flanks are strongly tinged with rufous, which is not the case with the Indian species. Even in the adult female there is a striking difference between the two birds; for an example from France of that age and sex has the edge of its wing-feathers white, the spots on the lower surface extend almost to the chin, and there is a decided rufous tinge on the flanks; whereas in

T. hodgsoni the throat and chin are white, and the rufous tinge on the flanks is entirely wanting.

I have had several opportunities of observing this species, and have always found it on hills well covered with forest-trees. The moment the birds are disturbed, they utter a peculiar note, which appears to be taken up by others, should there be any more about. They are not at first difficult to approach, but when fired at become exceedingly wild. The young, while following their mother, extend and keep constantly flapping their wings, keeping up all the time an incessant calling; but the moment they are disturbed by a shot being fired at them, they conceal themselves among the branches and leaves, and are with the greatest difficulty discovered.

Cichloides atrigularis (Temm.); Jerdon, B. Ind. no. 365.

1. ♂ *adult.*, from Barrackpoore. Length 9·5 in., bill from gape 1, wing 5·75, tail 4·125, tarsus 1·5. All the upper surface uniform greyish-brown, with light edgings to the quill-feathers, and a few dusky streaks on the head; chin, throat, and breast very dark blackish-brown, the feathers on the latter with light edges; abdomen and under tail-coverts white; flanks shaded with dusky; under wing-coverts chestnut; bill and feet yellowish-brown, upper mandible darker than the lower. This specimen I consider a very fair type of the species in its fully adult phase of plumage.

2. ♂ *adult.*, but younger than the last, from Umballa. Length 9·5 in., bill from gape ·875, wing 5·5, tail 3·5, tarsus 1·125. All the upper surface lighter brown than in No. 1; the wing-feathers margined with a lighter hue, and the upper tail-coverts with light edges, of which No. 1 shows no trace. The head distinctly marked with dark streaks; chin whitish, with black streaks; breast dark blackish-brown, the feathers with light edges. Abdomen and under tail-coverts as in No. 1.

3. ♂, younger than No. 2, from Umballa. Dimensions and colouring above the same as in No. 2. Chin, throat, and breast whitish, with black streaks, the white on the abdomen shaded with dusky brown.

4. ♂, younger than No. 3, but of the same dimensions.

Much browner, more like the colour of the females; the markings are less distinct; chin, throat, and breast whiter, with blackish-brown streaks.

5. ♀ *adult.*, from Faggoo. Length 9·5 in., bill from gape ·875, wing 5·125, tail 3·75. In colouring, this bird is very like No. 4; but the marks on the chin, throat, and breast are well defined, and not like the confused markings of a young bird. Again, the white in the centre of the chin and breast is purer, and the breast and flanks clouded with dusky-ash; the abdomen also is more or less dotted like the breast.

I think these five specimens are good typical ones of the several phases of plumage in which I have shot this species.

MERULA BOULBOUL (Lath.); Jerdon, B. Ind. No. 361.

1. ♂ *adult.*, from Simla. Length 10·25 in., bill from gape 1·125, wing 6, tail 4·5, tarsus 1·25. Head, neck, back, tail, and primaries jet-black; rump and upper tail-coverts ashy-black; scapulars and secondaries with the outer half of their feathers ashy-white, forming a conspicuous wing-band; throat, chin, and breast black; abdomen, flanks, and under tail-coverts ashy-black, with light-coloured margins to the feathers. Bill bright orange. This specimen is a good example of an adult male in perfect plumage.

2. ♂ *adult.*, from Mussoorie. In measurements agreeing with No. 1; but, from being a younger bird, the fine ash-grey, so conspicuous in the last, is in this of a browner hue, and the black, instead of being so intense, has a visible brown tinge throughout.

3. ♂ *juv.*, from Mussoorie. Length 10 in., bill from gape 1, wing 6, tail 4, tarsus 1·375. All the upper surface black, with a brown hue throughout; darkest on the head, tail, and primaries; the grey wing-band shaded with brown and dark, mixed at the bend with a few dark feathers, which are conspicuously tipped with light rufous-brown; chin and middle of the throat pale rufous-brown; breast black, with pale rufous-brown spots; abdomen, flanks, and under tail-coverts black shaded with brown.

4. ♀ *adult.*, from Dia. Length corresponding with the adult

males. Whole colour a fine rich brown, lighter on the abdomen, and shaded with rufous on the flanks; bill yellowish-orange. I consider this specimen a good type of the adult female.

5. ♀ *juv.*, from Simla in September. Corresponds with the measurements of No. 3. Above brown, like No. 4, only a little darker, with white streaks in the middle of the feathers of the back. The outer half of the wing-feathers more or less chestnut, which is bright at the tips at the bend. A whitish-chestnut streak from the chin to the throat more or less speckled with dark brown. Breast the same colour as the back, speckled with whitish-fawn; abdomen, flanks, and vent dark dusky-brown.

There is a great resemblance between this species and our English Blackbird; and its fine, clear, melodious note, early of a morning, reminds me much of the European bird. Several of them are at present in full song about my house; and it is truly charming to hear the early concert of these songsters.

I will send a continuation of these notes in my next letter, in the meantime

I am, &c.,

Robert S. Tytler.

Victoria, Vancouver Island,
Oct. 29th, 1868.

Sir,—From a note in 'The Ibis' for 1867 (page 126, note), I perceive that you are somewhat uncertain as to the nature of the bird mentioned by Lord Milton and Dr. Cheadle under the name of the "Booming Swallow."

I think it hardly admits of a doubt that they refer to the Common Night-Hawk (*Chordiles virginianus*). In fact I look on the description as remarkably accurate, proceeding as it does from persons without any pretensions to a scientific knowledge of ornithology. The long pointed wings, the Swift-like flight, the hunting after flies, indicate the species correctly enough; and the strange booming noise made by the bird when shooting down from a height is a sound well known to all those who have had an opportunity of watching the Night-Hawk chasing its prey. So little did I consider the species a matter of doubt, that on reading the account I immediately marked "*Chordiles* *virginianus*" in the margin of my copy. The only error is in the size; but as the travellers do not appear to have shot an example, they might easily imagine the bird when flying in the air, with its great expanse of wing, to be larger than it really is: I may add that, though the evening, towards twilight, is the chief time of the Night-Hawk's activity, there is scarcely an hour in the day in which I have not occasionally seen it hawking for insects.

I am, Sir,
Your obedient servant,
J. HEPBURN.

Haarlem, Nov. 27th, 1868.

SIR,—The interest taken in hybrids of any species of the Duck-tribe encourages me to inform you of the result of my observations on three between the Mute Swan (*Cygnus olor*) and the domestic Goose (*Anser ferus*, var. *domesticus*), which came to maturity*. They were a male and two females. The first fecundated his mother and also one of his sisters. The other female hybrid never laid any egg. The old Goose's eggs were exactly like every other Goose's eggs, and the young birds were true Geese. The hybrid laid, at intervals of three or four days, a great number of eggs, which resembled very much in length and colour those of the Swan. They were rather thinner, however, and thereby seemed to be longer. The hybrid did not hatch any of them; but from some which were hatched by the old Goose proceeded young ones, differing only from young Geese in the rather darker colour of the feet.

I hope that my information will be welcome to you, and
I remain, Sir,
Your obedient servant,
J. P. VAN WICKEVOORT CROMMELIN.

SIR,—You, like myself, have doubtless not failed to observe that during the last few years our islands have been visited by many species of birds whose natural habitat is the eastern portion of the European continent and Asia. The cause of these visits seems to be totally unknown: they cannot be regarded as the result of migration; for the species referred to have only occurred in solitary examples and at uncertain periods, but generally in the months of autumn, and are mostly in a state of immaturity. Of these visitations, that of the *Syrrhaptes* in 1863 was the most remarkable, from the great number of individuals, and the immense distance they must have travelled before they arrived in Western Europe and extended their journey to the British Islands. Since that date solitary examples of several other rare species have visited us, the whole of which I need not recapitulate here; but I may mention *Muscicapa parva* (Ibis, 1864, p. 130), *Emberiza pusilla* (Ibis, 1865, p. 113), the more rare *E. rustica*, caught near Brighton, Oct. 23, 1867, and submitted alive the same day to Mr. G. Dawson Rowley, as well as a second * British-killed example of *Reguloides superciliosus*, which last was obtained within a mile of Cheltenham, Oct. 11, 1867, by Mr. J. T. White.

---

* [Cf. Ibis, 1868, p. 226.—ED.]

I have now to inform you of the occurrence of *Emberiza* (*Euspiza*) *melanocephala*, of which a very fine old female specimen, in perfect plumage, is now before me. It was brought to me by Mr. Robert Brazener, of 23 Lewes Road, Brighton, by whom it was shot about the 3rd of November last, near Mr. Ballard's windmill, on Brighton Racecourse, while, as he stated, "it was following a flock of Yellow Hammers." His two sons were with him at the time. On an examination of the bird, a number of eggs were found in the ovarium. This is all the information I was able to obtain respecting it.

While writing the above, the post has brought me a letter from Mr. T. J. Monk, of Mountfield House, Lewes, informing me that on the 23rd inst. a fine example of the Black-throated Thrush (*Turdus atrigularis*) was shot near that place, and is now in his possession. It is a male in excellent condition, and is, as he rightly believes, the first specimen of the species on record as obtained in Great Britain.

I am, Sir, yours very faithfully,
JOHN GOULD.

26 Charlotte Street, Bedford Square, London,
Dec. 30, 1868.

* [*Cf.* Ibis, 1867, pp. 252, 253.—ED.]

THE IBIS.

NEW SERIES.

No. XVIII. APRIL 1869.

X.—*The* Malurinæ *of North-eastern Africa.*

By Dr. M. T. von Heuglin *.

[Continued from page 107.]

24. Drymœca inquieta.

Prinia inquieta, Rüpp., Atl. tab. 36. fig. 6. *Curruca famula,* Hempr. & Ehr., Symb. Phys. fol. *bb.* *Drymœca inquieta,* Rüpp., Syst. Ueb. No. 119; Heugl., Syst. Ueb. No. 171; *Id.,* Faun. Roth. Meer. No. 57; Bp., Consp. Av., i. p. 283.

Supra dilute et pallide fulvescenti-cinerea, vix rufescenti-lavato; pilei, cervicis et interscapulii plumis mediis nigricanti-fusco striolatis; stria transoculari fusca, altera superciliari albida; rectricibus nigricanti-fuscis, $\frac{1}{1}$ medianis pallidioribus, omnibus delicate fasciolatis et dilute et pallide fuscescenti-cinereo marginatis, extimis apice albicantibus; gastræo albido, regione jugulari maculaque suboculari purius albis; pectoris lateribus et hypochondriis diluto testaceo indutis; jugulo et pectore in plerisque plus minusve-fulvescente striolatis; rostro corneo-flavescente, culmine et apice magis fusco; iride helvola; pedibus cerino-flavidis.

Long. tot. $4''$, rostr. a fr. $4\frac{1}{2}'''$, al. $1''\ 8\frac{1}{2}'''$, caud. $1''\ 7\frac{1}{2}'''$, tars. $7'''$–$8'''$.

In many specimens the feathers of the breast and throat present dark brownish striolæ on the shaft. The fourth and fifth remiges are the longest, the third but little shorter, the first 8‴, and the second 3‴ shorter than the tip of the wing.

---

* Translated by W. S. Dallas, F.L.S. &c.

This aberrant form lives in the low bushes of the rocky slopes of Arabia Petræa. We met with it between 2000 and 5000 feet above the sea-level. It appears singly and in pairs, alights upon the ground not unfrequently, and hops away over the boulders and rocks. It is a very lively and active bird, and reminds one in its movements rather of the *Phyllopneustæ* than of the true *Malurinæ*. The song is somewhat like that of a Titmouse; the cal-note also is not unlike that of *Parus cristatus*. During the morning especially, the melodious song of the males sounds widely through the mountain solitude of their deserted and lifeless abode; during the heat of the day they are quieter. It appears to be a permanent resident; nevertheless we did not meet with this species on the higher summits of the Sinaitic peninsula. It probably occurs also on the other side of the Bay of Agabah.

25. DRYMŒCA PACHYRHYNCHA, Heugl.

Drymœca valida, Heugl., J. f. O. 1864, p. 258.

Statura obtusa, rostro brevi, valido; cauda lata, breviuscula, minus graduata; supra pallide fuscescenti-cinerascens, plumis medio obscurioribus, fuscescentibus; tertiariis et rectricibus fumoso fuscis, illis stricte sordide albicante marginatis, his basin versus obscurioribus, subtus magis canis, ante apicem albidum fascia conspicua fuliginoso nigricante notatis; remigibus saturate fumosis, extus basin versus rufescenti marginatis, intus pallide fulvido limbatis; loris sordide albidis; area anteoculari obsolete nigricante; gastræo ex fulvescenti-albido, hypochondriis ex olivaceo cinerascenti-, tibiis magis rufescenti indutis; gula et abdomine medio purius albis; rostro basi nigro, apicem versus magis cærulescente corneo; pedibus rubentibus; iride pallide umbrina.

Long. tot. 5″ 1‴; rostr. a fr. 5½‴, al. 2″ 5‴, caud. 1″ 10‴, tars. vix. 1″.

The bill of this species, which is certainly very nearly allied to *D. fortirostris*, Jard. and Fras. (Contr. Orn. 1852, p. 60), and *D. nævia*, Hartl. (Orn. Westafr. p. 56), is very robust, short, and pretty strongly arched; the feet are long and strong, with the outer toe shorter than the inner one.

We found this species only immediately before and at the commencement of the rainy season, in the forest-region of Bongo, in Central Africa, where it occurs in pairs in isolated bushes upon clearings densely covered with tall grass. It seems also to like the vicinity of water; and at the break of day the male ascends like a Lark into the air, and descends again in jerks with a loud cry, something like "*ter-ter-ter,*" and a vibrating movement and smiting together of the wings. *D. nævia*, from Senegambia, which I have not been able to compare directly with my birds, has, according to my measurements, a rather shorter bill, narrower at the base, a yellowish mandible, and longer remiges; the wing measured 2″ 8‴, and the tail 1″ 8‴. The name originally chosen by me, "*Drymœca valida,*" had previously been employed by Dr. Peters*; it is therefore now changed to *D. pachyrhyncha.*

26. Drymœca cinerascens, Heugl., J. f. O. 1867, p. 296.
D. semitorques, Id., ibid., 1862, p. 40 (ex parte).

Statura *D. ruficipitis,* at cauda breviore, latiore, minus graduata; notæo areaque utrinque pectorali sordide fumoso-cinerascentibus, immaculatis, pileo (nec cervice) ex cano rufescente; loris albidis; macula obsoleta anteoculari fumosa; alæ tectricibus et tertiariis dilute pallide marginatis; remigibus fumosis, extus basin versus ex cano rufescente marginatis, intus basin versus albicante limbatis; uropygio pallide murino, supracaudalibus fumoso-cinerascentibus, vix rufescente lavatis; rectricibus $\frac{1}{1}$ medianis dorso concoloribus, apicem versus fuliginoso adumbratis, vix albido marginatis, et ex toto delicate fasciolatis; reliquis fumosis, infra magis canis, macula latiuscula nigricante ante apicem conspicue album notatis, extima utrinque pogonio externo delicate albo marginata; gastræo ex fulvescente sericeo-albo, hypochondriis cano lavatis; tibialibus rufescente adumbratis; rostro nigricante, mandibula media albido-cerina; iride læte helvola; pedibus rubellis.

Long. tot. 4″, rostro a fr. 4‴–4½‴, al. 2″ 1‴–2″ 2‴, caud. 1″ 5‴–1″ 6½‴ tars. 8½‴–9½‴.

Distinguished from *D. ruficeps* by the very dark-coloured, stronger, rather more arched and shorter bill, broader, shorter, and less graduated tail, somewhat longer third primary, and quite different coloration. In the female the frontal region only is tinged with ferruginous. In four specimens lying before me, the upper surface is always quite spotless, the white tips of the five outer rectrices not so large as in that species; the dark mark behind them, on the contrary, is more dilated. The outer toe is longer than the inner one.

---

* [We are not able to refer to Dr. Peters's description.—Ed.]

We killed this species in October, in the Bogos country, and have also examined some specimens from Sennaar which are quite similarly marked.

In the Frankfort Museum there is an exactly similar bird, under the name of "*Drymœca ruficeps*, juv."; it was obtained by Dr. Rüppell in Abyssinia, and is somewhat smaller; the bill is light-coloured, slighter, and straighter, the tail more graduated, and the flanks are duller dingy-brownish-grey. Bill 4·8‴, wing 1″ 11½‴, tail nearly 1″ 6‴, tars. 9½‴.

27. DRYMŒCA CISTICOLA.

Sylvia cisticola, Temm. *Salicaria cisticola*, Keys. & Blas. *Drymœca cisticola*, Gray. *Cisticola schœnicola*, Bp., Consp. Av. i. p. 286; Heugl., Syst. Ueb. No. 162; *Id.*, Faun. Roth. Meer. No. 60; Antinori, Cat. p. 37. *Sylvia textrix*, Descr. de l'Egypte, v. tab. 4 (?). *Prinia cursitans*, Frankl. (?); Cass., Proc. Ac. Nat. Sc. Philad. 1856, p. 3; Hartl., Orn. Westafr. No. 754.

Supra fuliginoso nigricans, plumis omnibus lateraliter fulvo-marginatis, marginibus plus minusve rufescente lavatis; uropygio et supracaudalibus purius rufescenti-fulvis, obsolete fumoso striatis; loris, superciliis, ciliis, gastræo et subalaribus albidis, lateribus corporis fulvo lavatis; tibialibus rufescentibus; remigibus fumosis, extus rufescenti-fulvo-, intus basin versus fulvo-albicante marginatis; rectricibus fuliginoso-atris, infra canescentibus, fulvo marginatis, ante apicem album macula subrotundata nigricante ornatis, deinde pallidioribus, dimidio basali obscurioribus; rectrice extima pogonio externo stricte albido marginata; rostro cerino-flavicante; pedibus magis rubellis; iride helvola.

Long. tot. 4″ 3‴–4″ 5‴, rostr. a fr. 4‴–4½‴, al. 1″ 10‴–1″ 11¾‴, tars. 8‴–9‴, caud. 1″ 5‴–1″ 6‴.

The outer and inner toes of nearly equal length. The fourth primary is usually the longest, the third and fifth scarcely shorter, the second about 1′, the first 9‴–10‴. There is, especially upon the inner vane of the rectrices behind the dark spot, a lighter space washed with reddish-yellow, so that, when the tail is completely expanded, its apical half appears trifasciate—that is, the broad tip itself white, then a tolerably broad and distinct blackish band, and then again a more or less striking, lighter, almost yellowish band. The colour of the margins of the feathers on the upper surface varies between yellowish-tawny and bright rusty-yellow; the striation is frequently very sharp and almost smoky-black, sometimes faded and dilute.

This species is a permanent resident in Egypt, Nubia, and Northern Arabia, goes southwards to Abyssinia, and probably also to Sennaar, and certainly does not live among sedges, but chiefly in clover- and wheat-fields, in meadows and acacia and date-palm thickets, especially when these are overgrown by climbing plants and grass, in gardens, and also far from the cultivated land, close upon the borders of the desert. This lively and abundant bird is usually met with in pairs. In the Delta the business of reproduction begins as early as March, when the male may frequently be seen in the neighbourhood of the breeding-place, ascending in the same way as is usual with the Whitethroat; they also describe circles, flying low with jerks and fluttering, and at the same time uttering a cry of "*ter-ter-ter*," like the geckos. Pässler asserts (J. f. O. 1857, p. 115) that this species builds among sedges and reeds a nest so peculiar that it cannot be confounded with any other (!!): reed-stalks and sedge-leaves are closely woven together, and the leaves sewn together with vegetable silk after being pricked with the bill; the entrance into the elongated purse-shaped nest is placed either above or below, or at the side; the five eggs are shining white. All this circumstantial description by no means agrees with my observations. The little bird probably breeds in wheat- and clover-fields; but I found its nests only in date-palm groves and low thorn hedges; they were placed from one to two feet above the ground, and were from 4½″ to 6″ high, the deep cavity of the nests being 2″–2½″ in diameter. The entire structure is not very thick and solid; the form is governed by the locality, and more or less approaches that of the Reed-Warbler, but is sometimes rather more bulging in the middle. The nest never hangs freely, like a purse-nest, but it is interwoven with leaf-sheaths, thorns, twigs, and even grass-stalks, and composed of fine dry grass and rootlets. The interior is carefully lined with wool, hair, and fibres. The four vividly reddish white very thin-shelled eggs exhibit numerous ferruginous spots and points, which are usually brought together into the form of a ring at the obtuse end so closely that the ground-colour entirely disappears. There are also some with a greenish-white ground and light violet and rusty-red points and spots. Their form is obtusely oval; their length being from 6‴ to 6¼‴, and their breadth nearly 5‴. On the 27th June I found three nests in Central Nubia, one of which contained two young birds and two unincubated eggs, the second two incubated and the same number of unincubated eggs, and the third two fresh-laid eggs. Savi describes the nest exactly like Pässler. Brehm gives no information at all about the nest, except that in Spain he found five light-blue eggs in it *.

The song of this species has never particularly attracted my attention. The birds live on the sea-shore and up to 6000 feet above the level of the sea; they are by no means shy, and are unwilling to quit their dwelling-place when once they have established themselves. Their flight is short and low; when pursued they endeavour to conceal themselves in the bushes, among which they make their way very nimbly and cleverly. We never saw them running upon the ground; Brehm, on the other hand, says that they do this in the grass; my friend also remarks that the indigestible parts of the food, which consists of small beetles, *Diptera*, caterpillars, and little snails, are thrown up in pellets.

Inhabits also Algeria (Loche, Tristram), Cape Lopez (Du Chaillu), Zanzibar (Kirk), Southern Europe, Syria and Asia Minor, eastward as far as India.

---

* [We have before (Ibis, 1868, p. 131) had occasion to refer to the paper of M. Lunel (Bull. Soc. Orn. Suisse, i. pp. 9–30), in which that gentleman shows how the different accounts of the eggs and nest of this species which have been given by various naturalists may be reconciled. —Ed.]

28. DRYMŒCA FERRUGINEA.

Cisticola ferruginea, Heugl., Syst. Ueb. No. 163; *Id.*, J. f. O. 1864, p. 259. *Drymœca troglodytes,* Antin., Cat. p. 38.

(Plate III. fig. 2.)

Minima; supra læte cinnamomeo rufescens; subtus pallidius rufescens; gula et abdomine mediis albidis; loris et stria obsoleta superciliari fuscescenti-albidis; remigibus pallide fumoso-fuscis, intus basin versus hepatico rufescente marginatis; secundariis pogonio externo tergæi colore, lætius ferrugineo, primariis extus delicatius eodem colore marginatis; tertiariis dorso concoloribus; rectricibus fumoso fuscis, apicem versus magis nigricantibus, lateraliter lætius cinnamomeo rufo-, apice obsolete albicante marginatis, $\frac{1}{1}$ medianis dorso magis concoloribus; tibialibus læte rufis; subalaribus ex hepatico rufescentibus; rostro rubente-corneo, apice nigricante; iride helvola; pedibus rubellis.

Long. tot. 3″ $9\frac{1}{2}$‴, rostr. a fr. $4\frac{1}{5}$‴, al. 1″ $7\frac{3}{4}$‴–1″ 9‴, caud. 1″ $3\frac{1}{2}$‴, tars. $7\frac{1}{2}$‴–8‴.

The outer and inner toes of equal length. The third and fourth remiges are of equal length. Before the somewhat lighter apex of the first four rectrices the dark spots peculiar to the genus sometimes appear, but they are observable only on the underside. Dr. Finsch regards this species as identical with the much larger *D. uropygialis,* Fraser (P. Z. S. 1843, p. 17), which, according to the description, has a completely different coloration, light ferruginous beneath, and a black band at the tip of the rectrices.

We found this charming little bird in the year 1853 in the country of the sources of the Rahad and Dender, and afterwards in abundance about the Djur and Kosanga rivers, in Central Africa; it is usually met with in pairs, and goes about in the high grass of the wooded steppe, and sometimes also upon shrubs and dry branches. It climbs very actively, is exceedingly lively and restless, showing in its behaviour much resemblance to a Wren. The tail is frequently much elevated. The bird rarely comes down upon the ground; its call-note is a loud buzzing chirp. Whether this species is a permanent resident, I cannot say. According to my notes, I observed it only between the months of March and May.

Genus HEMIPTERYX, Swainson.

29. HEMIPTERYX OLIGURA, Heugl.*

Cisticola brunnescens, Heugl., J. f. O. 1862, p. 289; "*Hemipteryx immaculata*, Hartl.," Sclater, P. Z. S. 1866, p. 22.

(Plate III. fig. 3.)

Pileo subconcolore canescenti-cervino, cervicis plumis medio dilute et obsolete fuscescentibus; macula nigricante inter oculum et rictum; notæo fuliginoso nigricante; interscapulii plumis rufescenti-fulvo-, tectricibus alarum sordide fulvescenti-marginatis; uropygio læte cinnamomeo-fulvo, vix fuliginoso striato; rectricibus et supracaudalibus nigrofuscis, sordide at conspicue fulvescenti-albido marginatis, illis apice abrupte albido limbatis; gastræo genisque fulvescenti-albidis; subalaribus, hypochondriis et tibiis læte ochraceo-indutis; pectoris lateribus area conspicua fuliginoso nigricante notatis; primariis pallide fumosis, secundariis magis fuscis, his extus basin versus rufescente-, illis pogonio externo delicate et stricte albido marginatis, omnibus intus basin versus hepatico fulvescente limbatis; rostro fusco, mandibula pallidiore; iride helvola; pedibus rubello cerinis.

Long. tot. 3″ 6‴, rostr. a fr. 4·8‴, al. 2″ 1‴–2″ 2‴, caud. 1″ 3‴, tars. 9‴–10‴.

A remarkably squat form. Bill robust; tarsi long and strong; the very short tail is not really graduated, the narrow, whitish edge of the tip is sharp, broader on the lateral than on the median rectrices, nowhere more than 1‴ broad; there is no black spot before the tip of the rectrices; their blackish-brown ground-colour extends uniformly from the base to the edge of the tip; the upper tail-coverts are of the same colour, not dishevelled, and finely but sharply margined with clear greyish-yellowish white; the rusty colour of the rump is sharply divided from them; the first primary is 13‴ shorter than the tip of the wing, the third and fourth are the longest, although but little longer than the second, fifth, sixth, and seventh.

We had only once the opportunity of observing this bird in freedom; and this was upon pasture land near Gudofelasi in the province of Serawi, at about 6000 feet above the level of the sea, where a single male was going about upon the shrubs and the stalks of the tall grass. Its squat form and short, almost truncate, tail attracted my attention even at a distance. There is a bird of this species, likewise marked as a male, in the Museum at Frankfort; it was killed in Abyssinia, by Dr. Rüppell, in the year 1832.

---

* [Our contributor does not state on what grounds he supersedes the name by which he first described this species.—ED.]

The measurements of *Hemipteryx immaculata*, Hartl., which, according to Dr. Finsch, is identical with my *H. oligura*, are somewhat less (wing 1″ 9‴, tail 9½‴, bill 4‴, tars. 9‴); and neither Dr. Hartlaub nor Dr. Finsch mentions the dark spot on the sides of the breast.

Inhabits also South Africa (Hartl.).

30. HEMIPTERYX IODOPYGA, Heugl.

Similis præcedenti, at pileo, cervice, interscapulio, tergo et tectricibus alæ fuliginoso nigricantibus, læte at late rufescenti-fulvo marginatis; uropygio et *supracaudalibus rufescentibus, nigro striolatis*; macula anteoculari nigricante vix distincta; stria lata superciliari, colli lateribus et abdomine fulvescenti-albidis, lateraliter lætius fulvo lavatis; tertiariis et rectricibus late et conspicue fulvescenti-albido marginatis; maxilla nigricante, mandibula cærulescenti-incarnata; pedibus et unguibus rubellis; iride helvola.

Long. tot. 3″ 8‴, rostr. a fr. 4½‴, al. 2″, caud. 1″ 2‴–1″ 3‴.

The tail projects only 8‴ beyond the closed wings. Whilst in *Hemipteryx oligura* the whole of the vertex and nape is almost uniformly greyish fawn-colour, this second species has the above-mentioned parts brownish-black with broad ferruginous-tawny margins, so that the upper part of the head appears striated, as in *Drymœca cisticola*; the wing-coverts, back, and tertials also are blackish-brown with very broad and conspicuous, more or less vivid rusty-tawny margins to the feathers; the dark-spotted feathers of the sides of the breast form, in both species, a pretty large dark spot before the bend of the wing.

According to my notes, I met with this bird upon cattle-pastures, in March 1862, near Tenta, in the country of the Wolo-Gala, and in May in the province of Dembea, between 6000 and 12,000 feet above the sea-level.

31. HEMIPTERYX HABESSINICA, Heugl.

Similis *Drymœcæ cisticolæ,* at lætius tincta, alis longioribus, cauda breviore, minus graduata, rectricibus angustioribus et absque maculis anteapicalibus nigricantibus; uropygio et supracaudalibus læte fulvo-rufescentibus, nigricante striolatis. Supra læte ochraceo-fulva, plumis medio longitudinaliter nigricanti-fuscis, superciliis, regione ophthalmica et abdomine ex flavicanti-fulvidis, lateraliter lætius rufescenti-fulvo lavatis; rectricibus fuliginoso-nigricantibus, ex rufescenti-fulvo marginatis, apice et pogonio externo primæ fulvo albidis; rostro corneo; iride helvola; pedibus rubentibus.

Long. tot. 4″ 6‴, rostr. a fr. vix 4‴, al. 1″ 11⅓‴, caud. 1″ 2½‴, tars. 8‴.

The less graduated and considerably shorter tail, the smoky black rectrices, which are scarcely paler beneath, and not washed with grey, and have not the characteristic dark spot before the whitish tip, and the somewhat longer remiges clearly distinguish this species from *Drymœca cisticola.* The striation of the upper surface is also much narrower, with the margins of the feathers brighter ferruginous-yellow, and the lower surface of a much fresher yellowish-tawny colour. In the Museum at Frankfort there is a bird which belongs here as regards its proportions and the markings of its tail, and differs from mine only by the presence of several distinct and large smoky black spots upon the sides of the breast, and by the rather broader striation of the upper surface. It is marked "*Drymœca erythrogenis,* juv."

In this form the outer toe is rather shorter than the inner one; it is therefore best placed in *Hemipteryx.*

We killed this species repeatedly about marshes, and on damp meadows in the neighbourhood of Adoa, and on Lake Dembea.

Genus CAMAROPTERA, Sundevall.

32. CAMAROPTERA BREVICAUDATA.

Sylvia brevicaudata, Rüpp., Atl. tab. 35. fig. 6. *Ficedula brevicaudata,* Rüpp., Syst. Ueb. No. 149. *Orthotomus griseoviridis,* Von Müll., Naumannia, 1851, iv. p. 27. *O. clamans,* Heugl., Syst. Ueb. No. 179; Bp., Consp. Av. i. p. 258. *Camaroptera* *brevicaudata,* Hartl., Orn. Westafr. p. 62; Brehm, Habesch, p. 288 (?).

Supra ex olivaceo fumosa, pileo et stria transoculari pallidius fuscescentibus; superciliis pallide fulvidis; interscapulio, tectricibus alarum et margine exteriore remigum læte olivaceo-virescentibus; remigibus et rectricibus fumosis, his olivascenti-griseo lavatis, apice albido limbatis; uropygio medio albo; subtus sordide albida, pectoris lateribus olivaceo cinerascenti-, abdomine medio et hypochondriis magis fulvido-tinctis; subalaribus albidis, marginem alæ versus læte flavis; tibiis læte viridi-rufis; subcaudalibus pure albis; cauda latiuscula, paulo rotundata; rostro longiusculo, nigricante, dimidio basali mandibulæ pallide corneo; pedibus rubellis; iride pallide helvola.

Long. tot. $4\frac{1}{2}''$, rostr. a fr. $6'''$, al. $1''\ 9\frac{1}{2}'''$–$2''\ 1'''$, caud. $1''\ 4\frac{3}{4}'''$–$1''\ 6'''$; tars. $8\frac{1}{2}'''$–$9'''$.

The first primary about half as long as the second; the rest about equal; the fourth and fifth a little longer.

Somewhat similar in coloration to *Sylvia umbrovirens,* Rüpp. The tail is not remarkably short; but the rectrices are rather narrow at the base, and somewhat darker towards the tip than in other parts. The whitish edge of the tip is often wanting.

Cretschmar's description and figure of this pretty and lively little bird are very defective; Brehm's characteristics (Habesch, p. 288) also leave much to be desired. We found this species in Kordofan and Sennaar, on the Bahr el Abiad, and throughout Abyssinia, even to the northward in Takar, at elevations of from 1000 to 10,000 feet above the sea. It lives singly and in pairs in low bushes, and glides nimbly through the most impenetrable thickets, either looking out quietly for its food, or fluttering from twig to twig, constantly opening and contracting its wings and tail. Its call-note may be nearly imitated by "*huid*" or "*ter*"; its song is loud and pealing, resembling that of the Whitethroat rather than that of the little Willow-Wrens.

It is called "Isa" among the Bogos; and the natives, when engaged in business, or on a campaign, carefully observe its appearance, and draw omens from its meeting them on the right or left side of their road, and from its call-note, as to the issue of their undertakings.

The coloration of the upper surface is variable. Vertex sometimes dark smoky-grey, with a slight olive-coloured tinge; interscapulium still darker, and without any trace of the greenish-yellow of the wings; the sides of the abdomen also washed with dark grey.

Inhabits also Senegal (Hartlaub).

33. CAMAROPTERA OLIVACEA, Sundev., Œfvers, 1850, p. 103.
Syncopta tincta, Cass., Proc. Ac. Philad. 1855, p. 325.
Camaroptera tincta, Hartl., Orn. Westafr. No. 186.

Saturate fumoso cana, subtus pallidior; abdomine medio, crisso et subcaudalibus albidis; abdomine ex parte obsolete et sordide albicante fasciato; scapularibus, margine lato tectricum alæ, et limbo exteriore remigum læte olivaceo flavis; subalaribus albidis; margine alari læte olivaceo flavo; cruribus rufescentibus; rostro nigro; pedibus rubellis.

Rostr. a fr. 6‴, al. 2″, caud. 1″ 5‴, tars. 9¾‴.

Like *Camaroptera brevicaudata*, but the grey coloration still deeper, the underside a little lighter than the upper, only the vent and under tail-coverts whitish. The middle of the belly shows traces of a broad but very obsolete transverse striation. The white in the upper tail-coverts is entirely wanting. The bird is on the whole rather larger, and has the bill rather narrower at the base, and apparently entirely black. The shafts of the remiges and rectrices are whitish beneath.

The following is the description of a specimen from the Gaboon in the Berlin Museum, which differs not inconsiderably from that given by Dr. Hartlaub:—

"Supra cinerea, alis dilute olivaceo-viridibus; remigibus, primo excepto, extus late olivaceis; cauda dilute fusca; axillis et cruribus læte flavis, his potius croceis; subalaribus albo flavoque variis; subtus pallide cinerea, abdomine medio et imo albo; rostro nigro; pedibus pallidis.

"Long. 3″ 8‴, rostr. 5½‴, al. 1″ 11‴, caud. 13‴, tars. 9‴."

"This differs from Nubian specimens only by the darker grey coloration of the lower surface of the body. Cassin gives the measurement of his male specimen as follows:—length 4″, wing 2¼″, tail 1¾″."

According to Verreaux this species, as stated by Hartlaub, inhabits Nubia; but it is possible that he confounded *C. brevi-*

caudata with it. It is found on the Gaboon (Verreaux), and St. Paul's River (M'Dowell).

34. CAMAROPTERA SALVADORÆ.

"*Orthotomus salvadoræ*, Paul Würtemberg," Heugl., Syst. Ueb. No. 198; *Id.*, J. f. O. 1867, p. 296.

Pileo in fundo cinereo læte rufo induto; nucha, tergo et uropygio olivaceo viridibus; alis caudaque saturate fumosis, tectricibus alarum, cubitalibus et rectricibus olivaceo-viridi limbatis; primariis margine externo angusto albicante; remigibus intus basin versus læte fulvescentibus; subtus alba, epigastrio medio fulvo induto; pectore et hypochondriis cano lavatis; subalaribus albidis, fulvo indutis, margine alari magis viridi-flavo; tibiis fulvo-rufis; rostro et pedibus pallidis, illo culmine apicem versus corneo-fusco.

Long. tot. circa 4½", rostr. a fr. 6‴, al. 1" 9‴, cauda 1" 5½‴, tars. 9¼‴.

The very long bill is somewhat depressed at the base; the wings rather short and rounded, the fifth primary the longest, the fourth and sixth nearly equal to it, the first about half as long as the second. Tail pretty much graduated, the rectrices narrow and produced into a sharp apex, which is of a whitish colour and tinged with olive-green. The upper tail-coverts olive-green, tinged with light ferruginous.

Found by Duke Paul of Würtemberg on the Atbara and in Sennaar.

Other species belonging here are:—*Camaroptera concolor*, Hartl. (Orn. Westafr. No. 187), from Guinea; and *C. caniceps*, Cass. (Proc. Ac. Philad. 1859, p. 38), from the Camma River.

Genus OLIGOCERCUS, Cabanis, J. f. O. 1853, p. 109.

35. OLIGOCERCUS MICRURUS.

Troglodytes micrurus, Rüpp., N. Wirbelth. tab. 41. fig 2. *Sylvietta brachyura*, Lafr., Rev. Zool. 1839, p. 258?* *Oligura micrura*, Rüpp., Syst. Ueb. No. 115; Heugl., Ibis, 1859, p. 340. *Sylvietta brevicauda*, Lefebv., Ois. Abyss. pl. 6; Bp., Consp. Av. i.

---

* Bonaparte (Consp. Av. i. p. 257) cites an *Oligura brachyptera*, Lafr. from Sennaar. This is probably a *lapsus calami*, and should be *O. brachyura*, Lafr.

p. 257; Sundev., Œfvers. 1850, p. 128; Heugl., Syst. Ueb. No. 161. *S. micrura,* Hartl., Orn. Westafr. No. 188.

Minimus; supra pallide murinus, subtus ex rufescente fulvus; loris fumosis; stria supraoculari, orbitis, mento, gula, genis et abdomine medio albidis; rostro pallide fuscescente corneo; iride helvola; pedibus rubentibus.

Long. tot. 3″, rostr. a fr. 4‴–4½‴, al. 1″ 11‴–2″, caud. 10‴, tars. 6½‴–8‴.

A charming, lively little bird, which is widely distributed in North-east Africa. We found it, usually in pairs, in Southern Nubia, Takah, the Bogos country, Abyssinia, Sennaar, on the White Nile, and in Kordofan, and on the coast of the Red Sea, southward as far as Tedjura. It lives upon tall trees and in the bushes, and has a song and call-note not unlike those of the European Nuthatch; it does not climb, but hops and glides through the bushes, usually with the tail elevated. Not found at any considerable elevation, but in Abyssinia ascends to from 5000 to 6000 feet.

Whether *Sylvietta brachyura,* Lafr., really belongs to *Oligocercus micrurus* is a question that I cannot decide. Hartlaub unites the two, whilst Sundevall would rather refer the *Oligocercus* obtained by Hedenborg in Sennaar to the first form. Sundevall describes it as follows:—

"Superne cinerea, subtus sordide fulva, ventre medio mentoque albidis; genis lineaque superciliari *intensius fulvis.* A. 55 [=2″ 8‴], t. 18 [9‴], c. 25 [11‴], r. 11 [vix 5‴]. Rostrum et pedes pallescentes."

A bird obtained by Duke Paul of Würtemberg in Southern Sennaar presents a light brownish-yellow frontal margin, ocular region, and superciliary stripe; throat scarcely paler. Bill 4¾″, wing 2″ 1‴, tail nearly 12‴, tars. 6½‴. It is possible that *two* nearly allied species live in North-eastern Africa.

Inhabits also Senegambia (Lafresnaye), Angola (Henderson) (?), Damara (Andersson).

P.S.—February 8th, 1869. Professor Newton has called my attention to a fact which was entirely overlooked by me in the classification of the *Malurinæ*. According to him* all the true species of *Drymœca* possess only *ten* rectrices, while the species of *Cisticola* have *twelve*. This circumstance necessitates and clearly establishes the generic separation of the two forms.

I cannot but greatly regret that the *Malurinæ* within my reach for examination are for the most part injured by bad preparation, and consequently it is impossible for me with certainty to determine the number of rectrices in all of them.

On a further inspection of the North-east African species, I find only *ten* rectrices in *Drymœca mystacea* (no. 7).

The following have *twelve* rectrices, and therefore must be referred to the genus *Cisticola*:—*Drymœca rufifrons* (no. 6), *D. clamans* (no. 8), *D. iodoptera* (no. 11), *D. flaveola* (no. 16), *D. robusta* (no. 17), *D. lugubris* (no. 19), *D. ruficeps* (no. 21) with its allies, *D. pachyrhyncha* (no. 25), *D. cinerascens* (no. 26), with, of course, *D. cisticola* (= *Cisticola schœnicola*) (no. 27) and *D. ferruginea* (no. 28).

My examples of *Drymœca gracilis* (no. 9), *D. marginata* (no. (12), and *D. inquieta* (no. 24) are all injured in the tail.

Lastly, I may mention that the species of the genera *Catriscus*, *Hemipteryx*, and *Oligocercus* have *twelve* rectrices.

XI.—*Stray Notes on Ornithology in India.*

By Allan Hume, C.B.

No. III. *My first Nests of Bonelli's Eagle.*

About a mile above the confluence of the clear blue waters of the Chambal and the muddy stream of the Jumna, in a range of bold perpendicular clay cliffs that rise more than a hundred feet above the cold-weather level of the former, I took my first nest of Bonelli's Eagle (*Nisaetus bonellii*). In the rainy season, water trickling from above had (in a way trickling water often does) worn a deep recess into the face of the cliff, about a third of the way down. Above and below it had merely grooved the surface broadly, but here (finding a softer bed, I suppose) it had worn in a recess some five feet high and three feet deep and broad. The bottom of this recess sloped downwards; but the birds, by using branches with large twiggy extremities, had built up a level platform that projected some two feet beyond the face of the cliff. It was a great mass of sticks fully half a ton in weight, and on this platform (with only her head visible from where we stood at the water's edge) an old female Eagle sat in state. This was on Christmas-day! It is not many holidays a really working official gets in India, or at least can afford to give himself; and part of mine are generally spent in the open air, gun in hand.

---

* [I owe the knowledge of this distinction to the kindness of Mr. Swinhoe, and some years ago availed myself of it (Proc. Zool. Soc. 1865, p. 48); but I am unable to say to whose discrimination its discovery is originally due. Dr. Jerdon was aware of it, as the diagnostic characters given by him for the several genera of *Drymœcinæ* (B. Ind. ii. pp. 164–187) show.—A. N.]

At the foot of the cliffs is a talus of rough blocks of clay that it will take many a flood yet to amalgamate; and up this I crept until I was only about sixty feet below the nest. Here, however, I could see nothing of the bird; I shouted and kicked the cliff, the men below screamed, threw fragments of *kunker* (one of which very nearly blinded me), and by various signs attempted to indicate to Mrs. Bonelli that a change of locality was desirable. Serenely sublime in the discharge of her maternal duties, that lady took no notice whatsoever of the uproar below. Accustomed to the passage of noisy boat-crews, and, like some other sovereigns who sit calmly aloft, unable to realize that it is really against their sacred selves that the mob beneath is howling, the eagle never moved. Beaten at our first move, we changed our plan; I crept down the talus and sent up a man to throw down dust and small pieces of earth (we were afraid of breaking the eggs), in the hopes of driving her off the nest. Luckily the very first piece of earth hit her; then came a shower of sand; and concluding, I suppose, that the cliff was (as it often does) about to fall, she flew off the nest with a rapid swoop. Bang, bang, both barrels, 12 bore, No. 3, green cartridge, full in the chest (as the body showed when we skinned it); and yet, with a half fall, like a tumbler-pigeon, through some fifteen or twenty feet, she recovered herself and swooped away as if unhurt, close along the face of the cliff; a hundred yards further I saw a tremor; then in a moment it was clear that she was in the death-struggle; she began to sink, and an instant after fell over and over on to a flat block of clay with almost incredible violence. The dust flew up from where she fell as if a shell had dropped there; but, as a specimen, the bird was scarcely injured.

We had scarcely secured the female, after the manner of bird-stuffers, plugging nostrils and shot-holes, stuffing throat, and smoothing feathers, when we heard a shrill creaking cry, and saw the male coming straight for the nest with a bird (which turned out to be a *Turtur cambayensis*) in his talons. Coming to the nest, he seemed surprised to find it empty; he took no notice whatsoever of us, nor did he apparently catch sight of his mate stretched out with her white breast uppermost on the decklike platform of our barge, but he straightway settled himself down in the middle of the nest, and became entirely invisible. Again tiny stones were thrown down; and after standing up, staring proudly round, and stalking to the edge, where he was hailed with shouts, he flew off slowly, swooping down to within twenty yards of where I sat, and the next moment dropped stone dead with only a loose charge of No. 6 through him. He was much smaller than the female: she measured 29 inches in length, nearly 70 in expanse, and weighed close on 6 lbs.; he was only 26 inches in length, 62 in expanse, and about 4 lbs. in weight.

We had now to get the eggs, if eggs there were, because as yet we could only guess and surmise in regard to these. Just above the recess the cliff bosomed out with a full swell for some two or three feet, effectually preventing any one's looking down into the nest from above, or, except by an accidental "cannon" in the broad groove (such as my boatman had had the luck to make at the very first shot), from even throwing anything down into it. Above the swell the cliff was as nearly perpendicular as might be; and it really did seem as if getting into that nest would be no easy matter. However, some six feet east of the nest passed a sort of fault or crack, which traversed the cliff at an angle of about 45°; and down this, a stout rope round the waist, with infinite trouble and no little danger, a way was found after all to the nest. Once there, it was a firm platform of sticks, at least 5 feet by 3½. In the middle of this a circle of about 20 inches in diameter was smoothed over with fine green twigs of the peeloo (*Salvadora persica*); and on this again a circle of about a foot in diameter was smoothly spread with green leathery leaves of the same tree, on which reposed the coveted treasures, two fresh eggs.

One of these eggs was bluish-white, blotched and speckled very feebly, but thickly, towards the larger end, with pale reddish-brown. It measured 3 inches in length by 2·187 in breadth. The other was almost pure bluish-white, with scarcely any traces of markings anywhere, and measured 2·812 in. in length, by 2·125 in breadth. I had always felt morally certain that the egg figured by Dr. Bree never belonged to this species, but was probably only a well-coloured Neophron's; but now the thing was certain; no bird that laid the eggs I had in my hand could ever have laid an egg similar to that given in his 'Birds of Europe.'

A few days later, in similar cliffs, a few miles higher up, I found another nest. This time, however, the platform was much larger, and was only about six feet below the top of the cliff. One could look into it without the slightest difficulty; and a wolf or jackal could assuredly have made his way there easily, as even I got down to it without help and without a rope. The platform of sticks was fully 5 feet in diameter; there was the same smooth patch of twigs, and smaller smooth circle of green leaves, this time of the peepul (*Ficus religiosa*); and, as in the former case, on the leaves, about five inches apart, lay two fresh eggs. These had a bluish-white ground, blotched all over, but thinly and very feebly, with pale dingy reddish-brown, and they measured, the one 3·312 in., and the other 2·562, by 2 inches. The eggs were, therefore, considerably less than those above described; while the female, which I shot as she left the nest, was a much younger and smaller one than the magnificent bird first killed.

XII.—*Further Notes on the Birds of Morocco.*
By C. F. Tyrwhitt Drake.

Since the publication of my former notes on the Birds of Eastern Morocco*, ornithology at Tangier has sustained a great loss in the person of M. Favier, who died suddenly in December 1867. He was an intelligent and very hard-working naturalist; and though his studies were limited to the neighbourhood of the town where he lived, yet during his long residence there he had collected a quantity of very interesting notes, which were sold after his death, unfortunately in my absence from Tangier; and on my return thither I was unable to procure them. This I much regretted, as from the opportunities he had enjoyed he had been able to remark many birds with which I had no chance of meeting in the winter and spring†.

On my first visit to Morocco my observations were limited to the districts of Tangier and Tetuan; but I have since had much greater opportunities of examining the fauna, having travelled through a large extent of the country—that is to say, on the coast from Tetuan to Mazagan, and in the interior from the town last mentioned to the city of Morocco and thence to Mogador.

The country along the coast presents a great sameness in appearance; the cliffs are usually low, and very frequently consist only of a bank of sand-dunes. Inland the ground rises, in some parts, in a series of plains backed by ranges of low hills till the snow-capped peaks of the Atlas are reached, as is the case to the south-east of Dar-el-baida and Mazagan. In other parts more northward it is a pasture-country, a "rolling prairie," as far as the eye can reach, with frequent lakes and marshes in the hollows. The first lake of any importance that I came to is that of Mulei-bou-Selham, so called from a Santon of that name who is buried there; and a channel has been cut through the sand-hills which divide it from the sea. This was done by the

---

* Ibis, 1867, pp. 421–430.

† [Some particulars of M. Favier and of the work for the publication of which he had been long collecting materials, will be found in the 'Ootheca Wolleyana' (pp. 1–3) as furnished to Mr. John Wolley in 1845.—Ed.]

Arabs on account of some heavy and destructive floods which occurred a year or two ago; and in consequence the lake is very shallow, with large tracts of mud flats and swamp surrounding it. These are the resort of countless Snipe, Dotterel *et hoc genus omne,* while the shallow waters form feeding-grounds for large flocks of waders and Flamingos, which last at rest appear almost pure white, but at the sound of a gun rise in clouds, showing the black and delicate rose-colour of their wings; and this with the sunlight gleaming upon it has a wonderfully pretty effect.

Near this place I came upon a colony of *Asio capensis,* which had taken up their abode in a patch of mallows, about half an acre in extent, by the side of a stream. There were some twenty or thirty of them sitting solemnly blinking at me till I was within a few yards of them, when they lazily flapped away. This is the only time I ever saw them in the open country; in the wooded hills to the east they are common *.

A short distance further west, about halfway between Laraiche and Rabat is the Lake of Ras-dowra or Behara, which, with the marshes, or, rather, series of small lakes and pools, at its south-western extremity, cannot be less than thirty or five-and-thirty miles long, while in parts it is five or six wide; it is, however, so intersected with promontories and studded with islands that it is difficult to realize its extent.

The Arabs on the shores of this lake, which is only separated from the sea by a low range of hills, are mostly fishermen: they use canoes made of bundles of bullrushes tied together to form the bottom; gunwales are made in the same way; one end is then cut square, and the other is gradually fined off into a point which rises some two feet above the water. These canoes are punted along with a pole shod with horn, as the water is generally not more than from four to six feet in depth, but so choked with weeds that a paddle would be useless: a net would be equally so; the fishing-implements, then, in use are cane spears tipped with iron. When a fish is seen, or an eel begins to bubble, the boatman throws in a bundle of six or seven of these spears, one of which is almost certain to strike the fish; and if this seems a large one, other spears are driven in close to the first till the prey is secured.

---

* [Other observers, we believe, have noticed that this species generally affects the open country. The late M. Favier informed Mr. Gurney that near Tangier it bred with *A. brachyotus,* and that the hybrids had a narrow yellow ring round the iris.—Ed.]

The numbers of wild fowl on this lake are wonderful; the water seems alive and quite black with them, while the noise they make in rising sounds like a heavy surf breaking on a pebbly beach. Few of these birds, however, according to the account of the Arabs, remain to breed: Widgeon, common Wild Ducks, and Coots of both species are the most abundant; but the Ruddy Shell-drake is not uncommon, as well as the Glossy Ibis, Herons, and Bitterns.

The districts where the Lesser Kestrel is found in this country are most curiously limited: the only reason I am able to give for this is that they seem to prefer a comparatively level country; in fact I never found them in the mountainous parts except at Tangier, and then only during the March migration; but at Laraiche, which is about sixty miles along the coast to the west of Tangier, they are not only found in summer, but they stay the whole year round and breed there. When I travelled down the coast I found them at every town and *kasba* that I passed, sometimes on the coast, sometimes thirty or forty miles inland; this continued till I came to Mazagan, where there were numbers; and I saw them continually till I came to the village of Sidi Rahal, which lies about sixty miles south by east of Mazagan, on the road to Morocco. I never afterwards saw them, whether at Morocco, Mogador, or Safi. By this it will be seen that they are limited to a district extending about two hundred miles along the coast and some forty to sixty inland. They live in the holes and crevices with which every Moorish wall is so abundantly supplied, in perfect harmony with the Sardinian Starling, which has similar tastes. In the early dawn and just before sunset they may be seen sitting on the walls in rows, often forty or fifty together. In the day-time they fly together in small flocks of from five to twenty, feeding chiefly on insects which they catch on the wing, so that many of their habits more resemble those of some of the Swallow- than of the Hawk-tribe.

At Rabat I saw two birds alive in the possession of Mr. C. Smith, the English Vice-Consul, which were evidently some kind of Francolin; but as I was unable to procure a specimen I cannot venture to name them: the plumage was of a dark slaty-grey with whitish pencillings on the back and wings; the breast was of the same grey, but with a circular spot of white on each feather. The general colour of the plumage much resembled that of a Guinea-Fowl, but was perhaps a slight shade browner. These birds had been brought in quite young from the Zyar country in the preceding spring; but unluckily these Zyars are one of the unsubjected tribes numbering some forty thousand strong, so that it is impossible to penetrate their country, which is to a great extent forest, as is the territory of their equally lawless neighbours the Zimours, who live in the forest of Maimora, to the south-east of Rabat. A species of wild ox, of a dun or reddish colour, is said to have existed here till recently, but is now said to be quite extinct. I was also told that a large Wood-Pigeon with a black ring round its neck is found here; but I never met with it myself.

When I was in the neighbourhood of Dar-el-baida (Casablanca), hearing that *Otis arabs*, or, as it is called by the natives, the "Hobar," was to be found on the plains inland, I went up the country and spent several days hunting it, but was not fortunate enough to obtain any. I followed the usual plan pursued by the Arabs, several of whom came out to help me: their way is to ride in line over the plain till a Bustard is flushed and to mark it down, surround it, and try to drive it to where the guns are posted; but though this might answer well enough with several guns, yet I found it useless while I was alone.

The Arabs are always glad to shoot these birds, as they say there is nearly as much flesh on them as on half a sheep; they told me, too, of a plan of stalking which was sometimes used with success. It is done thus:—A *schwarry*, or double pannier, being put on a camel, two men deposit themselves therein, one on each side, and guide the camel up to the Bustard, which is so accustomed to these animals that it does not move, and so falls an easy prey to the long guns of the Arabs. These people certainly show good taste in their liking for Bustard, but as a general rule they are not at all particular as to what they eat; for I know from my own experience that they delight in the flesh of ichneumons, foxes, and jackals; and, though I have never seen them do so myself, I have been assured on good authority that they take as kindly to Vultures, the flesh of which, say they, "comforts the stomach." I heard on one occasion of seven or eight Egyptian Vultures being shot in a village, the inhabitants of which made a sumptuous feast off them: but all this by the way. I find that the Great Bustard (*Otis tarda*) is also found in Morocco, as one was shot a few years ago near Tangier; this I have on the authority of Mr. W. K. Green, British Vice-Consul at Tetuan, who himself shot and skinned the bird.

I again met with the "Hobar" in the plains of Ducala, about a day's journey from the town of Morocco. Numerous herds of gazelles are not unfrequently seen in the same place. It is a barren, desolate tract, where nothing seems to grow but a few thorny shrubs and a kind of mimosa, forming inaccessible fortresses, in which numerous Ravens and some few Hawks build in security. On the hills the white broom grows, as it does everywhere in this latitude—near Mogador it is almost the only shrub to be seen for miles. A few sheep and goats manage to pick up a living where, to all appearance, there is not sufficient herbage to support life in a rabbit; there are, however, many watercourses, which, when I passed (at Easter), were dry; but no doubt after rain these would produce a plentiful pasturage so long as the water lasted.

Within the walls of the town of Morocco there are numerous gardens, or rather groves, of white mulberry-, olive-, citron-, and other trees which in spring seem quite alive with the gaily coloured Bee-eaters and Rollers; Turtle Doves are equally abundant in the palm-groves and fruit-orchards outside the gates. I saw here for the first and only time in the country the Barbary Dove (*Turtur risorius*); the master of the *fondak* (or caravanserai) where I was staying had two in a cage, which he told me had been taken from a nest in the palm-forest in the previous spring. I never, however, saw any wild.

The only other bird I ever saw within the walls, except the common Sparrow, was the beautiful *Carpodacus githagineus*, which is so tame that I have often had it fly into my room at the *fondak*, and fearlessly pick up any stray crumbs from within a few inches of the mattress on which I was lying. I never saw these birds any where else in the country, with the exception of a few at Mogador.

After a stay of some little time in Morocco I set out for Mogador about the middle of April—at a most unfortunate time, as it afterwards turned out; for I came in for very bad weather all the way down to the coast, rain and hail with occasionally bitter winds driving down from the Atlas; so that I was unable to do much in the way of collecting specimens, which was the more to be regretted as the great plain of Morocco was to a naturalist one of the most interesting parts of the country I passed through. It has a very fertile soil, and, being well irrigated by canals cut from the Tensift, almost anything may be grown there; for instance, tobacco, sugar-cane, and corn of all sorts flourish abundantly. Some of the Arabs, too, grow a kind of indigo, with which the women dye their clothes. The soil near Morocco is a rich, heavy, red loam, which, after rain, becomes excessively slippery, as I found to my cost; for the day I left that town a sudden storm came on at midday, the camels began slipping about as if they had been on ice, and one after another fell, which is often dangerous, as they are very apt to split themselves in falling, and so become so disabled as to be useless. Finding it impossible to go either backwards or forwards, I had to resign myself to fate till the rain stopped and the wind had sufficiently dried the surface to enable the animals to go on. Further from Morocco the ground becomes very stony, and affords good foot-hold for the camels.

There are many birds to be found here, amongst which I chiefly noticed the Moorish Magpie (*Pica mauritanica*) as abundant. The Great Spotted Cuckoo (*Oxylophus glandarius*), too, is very common, as are also the "Koudri" (*Pterocles arenarius*), the *Crateropus fulvus* (which last I invariably found on the borders of cultivated land, usually five or six together), the Woodchat-Shrike (*Lanius auriculatus*), and, commoner than all, the Turtle-

Dove (*Turtur vulgaris*), which here as well as in the "Argán" forest, near Mogador, literally swarms.

The following is a list of the birds which I had not observed on my former visit to the country:—

Astur palumbarius (Linn.). I saw a specimen shot in the mountains near Tetuan in December; and in May I saw a pair near Cape Spartel.

Melierax polyzonus, Rüpp. An example of this bird was shot in the neighbourhood of Mogador, which the Arabs said was the first they had seen of the kind. I believe this is by far the most northern locality whence this species has ever before been obtained. The specimen is now in the Museum of the University of Cambridge.

Crateropus fulvus (Desf.). Between Morocco and Mogador, as above mentioned.

Ruticilla tithys (Scop.). I saw a few at Tetuan late in November.

Carpodacus githagineus (Temm.). At Morocco and Mogador, as before mentioned.

Galerita macrorhyncha, Tristram. Found on the upland plains towards the city of Morocco. A specimen I brought home has been compared by Mr. Tristram with the type of the species, first described by him in 'The Ibis' for 1859 (p. 57); and he says it is darker and more rufous than any he obtained in Algeria. It is now in the Cambridge Museum.

Otocorys bilopha (Temm.). Found near Rabat and Dar-el-baida.

Turtur risorius (Linn.). At Morocco, as above mentioned.

Turtur vulgaris, Eyton. Very common, as I have before said, on the west coast; on my return to Tangier in May I found it there as a summer visitant.

Francolinus ——? At Rabat, as described above.

Fulica cristata, Gmel. Plentiful at the lake of Ras-dowra.

Gallinago major (Gmel.). In one instance at Dar-el-baida, in another at Tangier. In March.

Tringa minuta, Leisl. Found at a small lake near Laraiche.

Tringoides hypoleucus (Linn.). Generally at the lakes and marshes.

Totanus glareola, Temm. Near Laraiche.

Totanus glottis (Linn.). At Rabat.

Limosa lapponica (Linn.). Not uncommon at Mulei-bou-Selham and Ras-dowra.

Numenius arquata (Linn.)
Numenius phæopus (Linn.) } Generally found at the lakes and marshes.

Ægialites curonicus (Beseke). Marshes on the west coast: rare.

Otis tarda, Linn. As before mentioned, one was shot near Tangier, possibly a stray bird from Spain, as I never heard of it elsewhere in the country.

Ardea purpurea, Linn. I saw a specimen killed near Tangier.

Ardetta minuta (Linn.). Rare.

Spatula clypeata (Linn.)
Fuligula cristata (Linn.) } Not rare. Usually in small pools in the open country.

Hydrochelidon fissipes (Linn.). Tangier, in May.

Podiceps cristatus (Linn.) In one instance, at Agla, between Laraiche and Ras-dowra.

XIII.—*List of Birds obtained in Sikkim, Eastern Himalayas, between March and July* 1867. By G. E. Bulger, F.L.S., F.R.G.S., C.M.Z.S.

21.[*] Astur palumbarius. Goshawk.

One specimen of this bird was brought to me.

24. Accipiter nisus. European Sparrow-Hawk.

I saw this bird frequently, but only obtained two specimens.

---

[*] [The numbers prefixed to the names of the species are those which they bear in Dr. Jerdon's 'Birds of India.'—Ed.]

34. Limnaetus niveus. Changeable Hawk-Eagle.

One specimen only. I did not see it in life, that I am aware of.

73. Ketupu flavipes. Tawny Fish-Owl.

I obtained two specimens, and saw a third near the Bulwabos, a small stream tributary to the Little Rungeet river.

80. Glaucidium brodiei. Collared Pigmy Owlet.

I had two or three specimens brought to me, and I have seen the bird myself in the forests near the station. A hollow, ringing sound, said by the natives to be its call, is very common in the woods.

109. Caprimulgus albonotatus. Large Bengal Night-jar.

At Punkabarree (1815 feet above the sea), on the 23rd March, while a friend and I were were sitting outside the *dâk*-bungalow, just as it was getting dark, we heard a curious sound in the forest, which bore such a close resemblance to the noise that would be caused by a man at some distance striking a plank at quick and regular intervals with a small hammer, that my companion would scarcely believe it came from a bird. Presently, however, a similar sound arose from another part of the forest, and then a large Goatsucker, in a tree not ten yards distant, began emitting the same strange cry. He soon flew off into the air, apparently in pursuit of some insect, uttering a slight noise, like "tuk-a-tuk," as he left his perch.

116. Harpactes hodgsoni. Red-headed Trogon.

I had several specimens brought to me; but I never saw the bird, and my *shikaree* declared it was very rare. He informed me that those he killed were from the valley of the Great Rungeet river, some two or three thousand feet below Darjeeling.

124. Coracias affinis. Burmese Roller.

A pair of these birds was brought to me from the neighbourhood of the Great Rungeet river; and the *shikaree* informed me that they were very uncommon.

126. Eurystomus orientalis. Broad-billed Roller.

Two specimens from the same locality as the last.

131. Halcyon coromandelianus. Ruddy Kingfisher.

I only obtained one specimen of this most lovely bird, from the Teesta river; and the *shikaree* regarded it as a great prize. The amethystine lustre of its plumage is wonderfully beautiful, rendering it, in my opinion, the handsomest of the whole family.

134. ALCEDO BENGALENSIS. Common Indian Kingfisher.

Two or three from the Great Rungeet and Teesta rivers.

140. HOMRAIUS BICORNIS. Great Hornbill.

I purchased several specimens from Lepcha hawkers at Darjeeling; but I did not meet with the bird myself, nor did my *shikaree* succeed in securing a single example.

146. ACEROS NIPALENSIS. Rufous-necked Hornbill.

My *shikaree* was unable to obtain a specimen; but I procured several from Lepcha hawkers. I also saw a number of individuals myself, chiefly in the valley of the Little Rungeet river, and on the ascent thence to Darjeeling. It is a very striking-looking bird upon the wing; and its hoarse and somewhat loud croak is almost startling when heard suddenly and unexpectedly.

155. PICUS MAJOROIDES. Darjeeling Black Woodpecker.

Notwithstanding its name, I did not see it in a living state near the station; but I had four or five specimens brought to me by my *shikaree*; and we also obtained it during the ascent of Mount Tongloo, at an elevation of about 8000 feet.

162. YUNGIPICUS RUBRICATUS. Darjeeling Pigmy Woodpecker.

Of this bird I received several specimens from the forests near Darjeeling.

172. GECINUS OCCIPITALIS. Black-naped Green Woodpecker.

Several specimens, I believe, from the valley of the Little Rungeet river.

173. CHRYSOPHLEGMA FLAVINUCHA. Large Yellow-naped Woodpecker.

Seemingly common in the forests which extend downwards towards the Little Rungeet river. I saw numerous specimens, and obtained several.

176. Venilia pyrrhotis. Red-eared Bay Woodpecker.

Common enough near the station.

177. Gecinulus grantiæ. Pale-headed Woodpecker.

This seems to be the commonest of the Darjeeling Woodpeckers; at least, I saw it oftenest, and obtained more specimens than I did of any other kind.

178. Micropternus phæoceps. Bengal Rufous Woodpecker.

One specimen from the forests near the Rungmo river.

191. Megalæma virens. Great Barbet.

I had several individuals brought to me by my *shikaree*, but I never saw it in life.

196. Cyanops franklini. Golden-throated Barbet.

This bird seems somewhat plentiful, and its curious cry is one of the commonest sounds of the forests.

199. Cuculus canorus. European Cuckoo.

On the 23rd April we first heard the Cuckoo near Darjeeling, in the *khud* between Tukvar and Leebong; the old familiar sound was most grateful to our ears, bringing floods of recollections in its train as it rose at intervals from the massive forests below the road on which we were wandering. On the 4th May the birds seemed very abundant, as their call was to be heard constantly during the day, and occasionally even at night.

200. Cuculus striatus*. Himalayan Cuckoo.

Of this bird I received several specimens; it seemed to be quite as common as *C. canorus*.

201. Cuculus poliocephalus. Small Cuckoo.

For the best part of three months these most noisy birds were constantly giving utterance to their loud, laughing cries, which sounded something like "pot-you-chick-chick-chick." We heard them first on the 2nd May; and then, to nearly the end of July, the forests in our neighbourhood resounded with their harsh notes, which they utter both when flying and when at rest. Several resided in our immediate vicinity, and they seemed to be fully as noisy at night as in the daytime. Indeed the Lepchas say that, during the rains, they cry throughout the twenty-four hours. I found them wary, and somewhat difficult of approach, so that it was well on to the middle of May before I succeeded in getting a specimen. Our Bhotean servants called them (in Hindustanee, which language many of them speak slightly) *Pawnee-wallahs,* literally "water-fellows," having reference, I suppose, to the fact of their clamorous propensities in the wet weather. I heard this bird on the summit of Mount Tongloo, 10,085 feet above the sea, one of the summits of the Singalelah spur of Kinchinjunga.

---

* *Cf.* Ibis, 1866, p. 359.

203. Cuculus micropterus. Indian Cuckoo.

The soft and beautiful call of this bird, which sounds like that of the European Cuckoo doubled, "koo koō, koo koō," is one of the characteristic sounds of the Sikkim forest from May until July. During all our excursions I heard it constantly, and scarcely a day passed over without my seeing several individuals. I did not observe it above 8000 feet.

206. Hierococcyx nisicolor. Hodgson's Hawk-Cuckoo.

I only obtained one specimen of this bird; and it was evidently new to my *shikaree,* who declared it was identical with *Cuculus poliocephalus.* It was procured on one of the spurs of Mount Tongloo.

207. Hierococcyx sparverioides. Large Hawk-Cuckoo.

I heard these birds for many days before I saw them. They have a loud, clear note, or rather whistle, which sounds like "oh-few," with a stress on the last syllable. One begins to call, and the others answer from the neighbouring trees, until, sometimes, three or four are whistling within a short distance. I often imitated the note, and the birds generally replied, whistling louder and more violently, according to the rapidity with which I answered them. On the 4th May, one continued calling throughout the night close to our house.

210. Surniculus dicruroides. Drongo-Cuckoo.

Of this bird I obtained three examples from the forests below Darjeeling, which were procured by my *shikaree.*

211. Chrysococcyx hodgsoni. Emerald-Cuckoo.

My *shikaree* brought one specimen, which, he informed me, was procured near the foot of Mount Tendong. It is a most lovely little creature, the beautiful green of its plumage having an exquisite golden lustre, reminding me of the brilliant dresses of the Humming-birds.

213. COCCYSTES COROMANDUS. Red-winged Crested Cuckoo.

One individual, procured by my *shikaree*, near Mount Tendong.

215. ZANCLOSTOMUS TRISTIS. Large Green-billed Malkoha.

Two specimens of this bird, also brought to me from the valley at the foot of Mount Tendong.

217. CENTROPUS RUFIPENNIS. Common Coucal.

I have heard this bird near the Lepcha village of Simombong (5000 feet above the sea), and I think that I also saw it in the same locality. I had one example brought me from near Mount Tendong.

223. ARACHNOTHERA MAGNA. Large Spider-hunter.

This bird is not uncommon near Darjeeling, in the warmer valleys below the station. I procured several.

225. ÆTHOPYGA MILES. Himalayan Red Honey-sucker.

A pair of these birds were brought to me, I believe, from the valley of the Rungmo river.

229. ÆTHOPYGA NIPALENSIS. Maroon-backed Honey-sucker.

This charming species is not uncommon at Darjeeling. I have frequently seen both male and female amongst the shrubs, along the edges of the new cart-road. They were not at all shy, but allowed us to approach them very closely. In their habits these little creatures remind me much of the Humming-birds, often feeding in the same way, by probing tubular blossoms, while poised on rapidly vibrating wings, the plumage of the male meanwhile glittering and flashing in the sunlight like living gems.

231. ÆTHOPYGA SATURATA. Black-breasted Honey-sucker.

Several individuals of this species procured by my *shikaree*.

241. MYZANTHE IGNIPECTUS. Fire-breasted Flower-pecker.

One example from the thinned forests below the station.

245. CERTHIA DISCOLOR. Sikkim Tree-creeper.

I obtained several specimens in the forests near Darjeeling.

248. SITTA HIMALAYENSIS. White-tailed Nuthatch.

Somewhat abundant in the woods near Darjeeling.

252. SITTA FORMOSA. Beautiful Nuthatch.

I obtained one specimen of this truly lovely bird, shot, my *shikaree* said, on Mount Tendong.

259. LANIUS NIGRICEPS. Black-headed Shrike.

This bird does not seem uncommon on the lower elevations. Several examples were brought to me.

269. VOLVOCIVORA MELASCHISTUS. Dark-grey Cuckoo-Shrike.

I did not see this bird myself; but several were procured by my *shikaree* close to the station.

271. PERICROCOTUS SPECIOSUS. Large Minivet.

I obtained several specimens of this gorgeous Shrike in the forests below Darjeeling.

273. PERICROCOTUS BREVIROSTRIS. Short-billed Minivet.

This species is most abundant in the forests which still partially cover the beautiful spurs running down from the Jella Pahar mountain to the Little Rungeet River. I daily saw several of the males, as well as their more plainly-dressed mates, flitting about amongst the trees; and I obtained nearly a dozen specimens.

280. DICRURUS LONGICAUDATUS*. Long-tailed Hill-Drongo.

This Drongo seems almost as abundant at Darjeeling as its cousin, the King-crow (*D. macrocercus*), is in the plains. It was to be seen daily in the vicinity of our house, and specimens were easily procured.

283. BHRINGA REMIFER. Lesser Racket-tailed Drongo.

My *shikaree* procured three individuals of this singular but beautiful bird from the valley of the Teesta river. Two of them were males, of which one only had the long tail-feathers perfect.

---

* [This species is no doubt that called by Col. Tytler (Ibis, 1868, p. 200) *D. himalayensis*, and intended to be described by Mr. Beavan (*tom. cit.* p. 497) as *Buchanga waldeni*.—ED.]

286. Chibia hottentota. Hair-crested Drongo.

Of this bird, I had also three specimens brought to me, from the valley of the Teesta. My *shikaree* regarded it as a prize, but evidently did not set such a value upon it as on the last.

287. Artamus fuscus. Ashy Swallow-Shrike.

Several specimens from the valleys below the station.

289. Tchitrea affinis. Burmese Paradise Flycatcher.

My companion purchased a specimen from a Lepcha hawker; but I cannot say where it was procured. I did not meet with the bird myself, nor did my *shikaree.*

291. Leucocerca fuscoventris. White-throated Fantail.

This graceful little creature is common near Darjeeling, and has a weak but sweet little song.

294. Chelidorhynx hypoxantha. Yellow-bellied Fantail.

I saw it during the ascent of Mount Tongloo, at about 8000 feet elevation, in the heart of the forest.

299. Alseonax ferrugineus. Ferruginous Flycatcher.

These birds seemed to be common near Darjeeling.

301. Eumyias melanops. Verditer Flycatcher.

One of the most common and familiar birds of Darjeeling. It has a weak but sweet little song, and seems as fond of the neighbourhood of houses as even the English Redbreast. A nest was brought to me on the 1st May, which was said to belong to this species. It was cup-shaped, and measured two inches and a half across. The materials of its construction were grass and the slender stems of herbaceous plants, completed by a lining of horsehair. It contained four eggs, of a pale greenish blue, much and irregularly spotted and blotched with brown.

313. Nitidula hodgsoni. Pigmy Blue Flycatcher.

I obtained two specimens of this lovely little creature near the station of Darjeeling.

314. Niltava sundara. Rufous-bellied Fairy Blue-chat.

I saw numbers of these, and obtained several examples.

315. Niltava macgrigoriæ. Small Fairy Blue-chat.
Almost as abundant as the last.

316. Niltava grandis. Large Fairy Blue-chat.
I only succeeded in getting one specimen; it was not nearly so abundant as the two last mentioned.

317. Anthipes moniliger. White-gorgeted Flycatcher.
Specimens were obtained near the station, and I saw it on Sinchul mountain.

326. Erythrosterna maculata. Little Pied Flycatcher.
I obtained a couple of specimens of this little bird, which did not appear to be rare.

327. Tesia castaneocoronata. Chestnut-headed Wren.
I saw it in the gardens of the station of Darjeeling, and in the forests sloping down from Jella Pahar to the Rungmo river: it seemed to be abundant. I also found it pretty high up on the Sinchul mountain early in the season.

344. Hydrornis nipalensis. Large Nepal Ground-Thrush.
One specimen only of this bird.

347. Hydrobata asiatica. Brown Water-Ouzel.
One specimen (a young bird), from the Great Rungeet river.

350. Zoothera monticola. Large Brown Thrush.
Apparently common, for I obtained numerous specimens.

351. Petrocossyphus cyaneus. Blue Rock-Thrush.
I saw this Rock-thrush several times at Darjeeling, but never procured a specimen, which I much regret, as it is a bird of special interest.

355. Geocichla citrina. Orange-headed Ground-Thrush.
This bird did not appear to be uncommon. I procured several examples myself in the forests near Darjeeling; and my *shikaree* got two or three more.

357. Turdulus wardi. Ward's Pied Blackbird.
Several specimens.

361. Merula boulboul. Grey-winged Blackbird.
Abundant at and near Darjeeling. I saw it constantly, and obtained a number of examples.

362. Merula albocincta. White-collared Ouzel.

I obtained a pair on the summit of Mount Tongloo, 10,078 feet above the sea, but did not meet with it elsewhere.

375. Paradoxornis ruficeps. Red-headed Finch-Thrush.

One specimen, from, I believe, the valley of the Great Rungeet river.

376. Heteromorpha unicolor. Brown Finch-Thrush.

My *shikaree* killed one of these on the upper slopes of Mount Tongloo.

382. Grammatoptila striata. Striated Jay-Thrush.

A common bird near Darjeeling. I saw it constantly in the forests, and obtained a number of specimens.

384. Gampsorhynchus rufulus. White-headed Shrike-Thrush.

Two of these birds were shot by my *shikaree,* one in the valley of the Rungmo, and the other near the Teesta.

401. Pomatorhinus ferruginosus. Coral-billed Scimitar-Babbler.

Three specimens of this bird procured by my *shikaree.*

402. Pomatorhinus schisticeps. Slaty-headed Scimitar-Babbler.

There was a bird in the forests near Darjeeling with a very peculiar note, sounding like "rooee-co-co," which my *shikaree* assured me was of this species.

407. Garrulax leucolophus. White-crested Laughing Thrush.

Of this curious and noisy bird I obtained several examples.

410. Garrulax ruficollis. Rufous-necked Laughing Thrush.

This bird was brought to me by my *shikaree* from the valley of the Teesta river.

412. Garrulax pectoralis. Black-gorgeted Laughing Thrush.

One specimen only obtained—I believe, in the valley of the Little Rungeet river, below Simombong.

414. GARRULAX OCELLATUS. White-spotted Laughing Thrush.

None of the birds of Sikkim have, in my opinion, such a delightful call as this handsome species. It is not found at the lower elevations; and during our ascent of Mount Tongloo I first heard it at a height of about 8000 feet. Thereabouts, and just below the summit of the mountain, it was abundant, and the forests were ringing with its fine, clear, and mellow notes, which sounded like the words "awāy-awāy-awēe," whistled in somewhat rapid succession. The birds not only answered one another, but they replied readily to the imitation of their call.

416. TROCHALOPTERUM CHRYSOPTERUM. Yellow-winged Laughing Thrush.

Very common at and near Darjeeling. Any number of specimens might have been readily procured; for it literally abounded in the woods and thickets along the edges of the various roads.

422. TROCHALOPTERUM PHŒNICEUM. Crimson-winged Laughing Thrush.

Of this species I obtained several individuals. It was not rare near Darjeeling, though apparently not found at quite so great an elevation as the station itself. I only saw it in the forests on the upper slopes of the Little Rungeet valley; and the specimens procured by my *shikaree* were from the neighbourhood of Leebong, about 6000 feet above the sea.

427. ACTINODURA EGERTONI. Rufous Bar-wing.

Tolerably common, and I procured several examples.

428. ACTINODURA NIPALENSIS. Hoary Bar-wing.

Of this bird I obtained specimens during the ascent of Mount Tongloo. I did not see it at the lower elevations, and my *shikaree* assured me that it replaced the last species on the higher hills, where the latter is not met with.

429. SIBIA CAPISTRATA. Black-headed Sibia.

This pretty bird was most abundant at Darjeeling and in its vicinity. I think I first heard its clear metallic whistle, which sounds like "peepēe-pee pēe-peeyut" rapidly and very shrilly uttered, about the middle of April; but by the 28th of that month the forests all round the Jella Pahar mountain were reverberating to its call, and the birds themselves, scarcely ever silent, were busily engaged in running about the trees like Woodpeckers, apparently in search of insects. I have heard it give utterance to a harsh and rather loud rattling cry, as it flew from one tree to another.

444. HYPSIPETES PSAROIDES. Himalayan Black Bulbul.

I did not see any of these birds myself; but several examples were procured by my *shikaree* near, I understand, the village of Ging, which is 5156 feet above the sea.

447. HYPSIPETES MACLELLANDI. Rufous-bellied Bulbul.

Two specimens from the forests below Darjeeling.

448. HEMIXUS FLAVALA. Brown-eared Bulbul.

I saw this bird frequently near Darjeeling, but I never obtained a specimen.

449. ALCURUS STRIATUS. Striated Green Bulbul.

This bird is very common near Darjeeling. It has a clear, loud note, and it seems to be rarely silent. I have generally seen two or three together, almost always near the tops of trees. I did not observe them much below the elevation of the station, though on the upper slopes of the spurs running down towards the Little Rungeet river they were abundant.

451. CRINIGER FLAVEOLUS. White-throated Bulbul.

One specimen from the neighbourhood of the Great Rungeet river.

456. RUBIGULA FLAVIVENTRIS. Black-crested Yellow Bulbul.

I obtained several specimens, chiefly from the vicinity of the Great Rungeet river. From a thicket on the bank, near the cane bridge, a nest was brought to me on the 16th May, of the ordinary cup-shape, made of fibres and leaves, and containing three eggs, which my *shikaree* said belonged to this species. The eggs were of a dull pinkish hue, very thickly marked with small specks and blotches of brownish-crimson.

458. Otocompsa leucogenys. White-cheeked Crested Bulbul.

Two examples of this bird.

461. Pycnonotus pygæus. Common Bengal Bulbul.

Of this bird I obtained several specimens.

474. Oriolus trailli. Maroon Oriole.

Abundant at Darjeeling. I had several individuals brought to me.

477. Myiomela leucura. White-tailed Bluechat.

Of this bird I only received one example.

506. Chimarrhornis leucocephala. White-capped Redstart.

One specimen only.

531. Orthotomus coronatus. Grey-headed Tailor-bird.

A pair of these from one of the valleys below Darjeeling.

549. Suya atrogularis. Black-breasted Wren-Warbler.

Of this bird I obtained several specimens. It seemed to be common enough, for I saw it frequently.

569. Culicipeta burkii. Black-browed Warbler.

Of this bird I procured one example only.

571. Abrornis schisticeps. Black-eared Warbler.

One specimen only.

573. Abrornis albosuperciliaris. White-browed Warbler.

One specimen.

584. Henicurus maculatus. Spotted Forktail.

This pretty bird was common at Darjeeling, especially in the neighbourhood of the little mountain-streams. I saw numbers of them along the new cart-road.

592. Calobates sulphurea. Grey-and-yellow Wagtail.

One specimen was brought to me by my *shikaree*, which I believe he procured near the Great Rungeet river. I did not see this bird myself in any of my wanderings.

607. Cochoa purpurea. Purple Thrush-Tit.
I obtained two specimens of this bird, which my *shikaree* informed me he shot on Mount Tendong.

612. Cutia nipalensis. Yellow-backed Shrike-Tit.
One example of this bird.

614. Liothrix luteus. Red-billed Hill-Tit.
This pretty little bird is abundant at Darjeeling. I generally saw them in small flock or parties.

615. Liothrix argentauris. Silver-eared Hill-Tit.
I had several specimens of this bird brought to me, but I did not meet with it myself.

616. Siva strigula. Stripe-throated Hill-Tit.
I did not see this species myself; but my *shikaree* procured specimens.

617. Siva cyanouroptera. Blue-winged Hill-Tit.
I obtained several examples and saw the bird myself frequently.

618. Minla igneotincta. Red-tailed Hill-Tit.
This species appeared to me to be even more common than the last. I often saw it.

619. Minla castaneiceps. Chestnut-headed Hill-Tit.
Of this bird I obtained a number of specimens.

620. Minla cinerea. Dusky-green Hill-Tit.
I obtained one specimen only, a female.

623. Ixulus flavicollis. Yellow-naped Flower-pecker.
Common at Darjeeling.

626. Yuhina gularis. Stripe-throated Flower-pecker.
An abundant bird in and near the station of Darjeeling. I saw it on the spurs below Jella Pahar, and also above 7000 feet of elevation.

644. Parus monticolus. Green-backed Tit.
Abundant in and near the station.

649. Machlolophus spilonotus. Black-spotted Yellow Tit.
My *shikaree* brought me one specimen from near Leebong.

650. Melanochlora sultanea. Sultan Yellow Tit.

I did not see this bird myself; but my *shikaree* obtained three good examples from the lower part of the valley of the Great Rungeet river. It is a very handsome species, and its yellow crest is very striking.

660. Corvus culminatus. Indian Corby.

I shot a pair of these birds on the summit of Mount Tongloo, 10,078 feet above the sea. I did not see it elsewhere in Sikkim.

666. Nucifraga hemispila. Himalayan Nutcracker.

I obtained two individuals on the summit of Mount Tongloo, and I saw two others in the same locality.

671. Urocissa occipitalis. Red-billed Blue Magpie.

I saw this splendid bird in the forests between Darjeeling and Mount Tongloo, but not until we had ascended to nearly 8000 feet. I almost always came upon them feeding upon the ground, but when they rose they took refuge in the upper branches of the tall trees. We procured two or three specimens.

672. Urocissa cucullata. Yellow-billed Blue Magpie.

I found this species at higher altitudes than the last, where it seemed to take its place. It is not nearly so handsome, but is still a striking-looking bird, and has a strange, loud call. We obtained three specimens during the ascent of Mount Tongloo.

673. Cissa sinensis. Green Jay.

My *shikaree* procured three specimens in good plumage of this very beautiful bird, from the valley of the Great Rungeet river. I understood from him that they were not found quite so high as Leebong, which is about 6000 feet above the sea.

676. Dendrocitta sinensis. Himalayan Magpie.

We saw a number of these, and obtained several specimens during the descent, *viâ* Simombong, from Mount Tongloo. They did not appear to range very high.

677. Dendrocitta frontalis. Black-browed Magpie.

This species was obtained by us in the same localities as the last.

688. TEMENUCHUS MALABARICUS. Grey-headed Myna.

My *shikaree* brought me one specimen whilst I was at Darjeeling, which he obtained near the Teesta river.

710. PASSER MONTANUS. Mountain-Sparrow.

This bird is abundant at Darjeeling. The only Sparrow I saw there.

735. HÆMATOSPIZA SIPAHI. Scarlet Grosbeak.

I obtained half a dozen specimens of this splendid bird at Darjeeling (four males and two females), but I did not see it myself. I understood that it was not very rare.

778. SPHENOCERCUS SPHENURUS. Kokla Green Pigeon.

This very handsome Pigeon was common in the forests near Darjeeling. We saw a number of them during our return from Mount Tongloo, *viâ* Simombong, to the station. They have a soft and pleasant note.

779. SPHENOCERCUS APICAUDUS. Pin-tailed Green Pigeon.

I obtained a greater number of specimens of this species than of the last, and, to the best of my belief, saw it quite as often.

795. TURTUR SURATENSIS. Spotted Dove.

My companion purchased a pair of these birds from a Nepalese who passed through our camp, on the summit of Mount Tongloo; and we brought them down, first to Darjeeling, and subsequently to Bangalore, when we handed them over to the Lal Bagh. They were only a few days old when first procured, and were probably brought from Nepal. I saw two or three individuals of this species afterwards on the banks of the Bulwabos river.

798. CHALCOPHAPS INDICA. Bronze-winged Dove.

This lovely bird did not appear to be at all plentiful in Sikkim: I did not meet with it myself; and the *shikaree* only procured two specimens for me, which he shot near the Great Rungeet river.

805. CERIORNIS SATYRA. Sikkim Horned Pheasant.

I found it most difficult to procure specimens of this truly magnificent bird in Sikkim, although we saw them not unfrequently during the ascent of Mount Tongloo, at elevations above 8000 feet. They were very wary, and, on being approached, took wing and were soon lost amongst the trees.

811. GALLOPHASIS MELANONOTUS. Sikkim Kaleege Pheasant.

Common about Darjeeling. I have seen it in the forests running about and feeding on the ground. On the 26th April, a hen bird and four eggs were brought to me by my *shikaree*. The eggs were whitish, resembling those of the common Fowl very much in size and appearance*.

812. GALLUS FERRUGINEUS. Red Jungle-Fowl.

Two or three specimens were brought to me from the forests below Leebong.

824. ARBORICOLA TORQUEOLA. Black-throated Hill Partridge.

I obtained some specimens of this handsome bird during the ascent of Mount Tongloo; and the *shikaree* also procured them on Mount Tendong.

987. STERNA JAVANICA. Black-bellied Tern.

Two specimens from the Great Rungeet river.

1006. GRACULUS FUSCICOLLIS†. Lesser Cormorant.

My *shikaree* killed one example near the Great Rungeet river.

XIV.—*Ornithological Rambles in Spain.*

By HOWARD SAUNDERS, F.Z.S.

HAVING been compelled to pass the winter of 1867–68 in a warm climate, I was enabled to carry out a long-cherished desire of revisiting Spain; and, my stay there having been prolonged during the spring, a few notes may not be unacceptable, especially as I propose to limit them to the birds observed in Andalucia, or, to be still more correct, to the district south of the Sierra Morena. Lord Lilford's remarks on the ornithology of the Castiles* leave me nothing to say on that subject; and I will therefore commence with my arrival, on the 4th of November, at the picturesque city of Murcia, capital of the province of that name, situate in a fertile *vega*, hemmed in by mountains and watered by the river Segura.

---

* [The egg figured as that of this species (P. Z. S. 1858, *Aves*, pl. 140, fig. 2) does not, however, agree with the description given above.—ED.]

† *Cf.* Ibis, 1867, p. 181.

My first care was to inspect the museum, which contains some fine *Raptores*, notably *Aquila bonellii*, *A. pennata*, and *Circaetus gallicus*,—also *Anas marmorata* and *Fratercula arctica*, obtained near the city. My friend Dr. Angel Guirao also showed me his private collection, containing specimens, taken on the eggs, by himself, of a curious variety of *Thalassidroma pelagica*, of a uniform sooty black, without white rump or white on the wings, which breeds plentifully on the Hormigas and other islands just without the entrance to that great inland sea called the Mar Menor, which extends to Carthagena. I then started for the baths of Archena, distant about three leagues up in the hills, and arrived there utterly crippled by rheumatism. A few baths worked wonders, and I was soon enabled to crawl about the rocks and prosecute my favourite study.

Archena is situated in a gorge of the river Segura, the banks of which are rich with olive- and orange-groves, interspersed with clumps of date-palm; around, the mountains are utterly sterile and brown. Close by the baths rises a "hog's-back" of rock, some five-hundred feet in height; and one had only to climb to its summit, and, basking in the sun, enjoy the quarrels of the Black Wheatear (*Saxicola leucura*), watch the flight of the Crag-Martins (*Cotyle rupestris*), and listen to the plaintive whistle of the Rock-Thrush (*Petrocincla saxatilis*). Both the first and last of these were very familiar; and I have seen them on the roof of the bath-establishment; but when out with my walking-stick gun they always managed to keep out of range; and throughout my stay I was too weak to carry my double-barrel. The Black Redstart (*Ruticilla tithys*) was very abundant everywhere; and the Stone-chat (*Pratincola rubicola*), with us so shy of habitations, was always most abundant in orchards and near cottages. In the open country were thousands of Skylarks (*Alauda arvensis*), as well as Woodlarks (*A. arborea*) and Titlarks (*Anthus pratensis*). *A. rufescens* I did not then distinguish. Along the banks of the river, White Wagtails (*Motacilla alba*) and Goldfinches (*Carduelis elegans*) swarmed, whilst the little Fantail (*Cisticola schœnicola*) alternately flitted like a moth and sneaked like a mouse amongst the herbage. *Emberiza cia* was not uncommon; and *Passer domesticus* was as abundant and impudent as elsewhere. A fine male *Sylvia subalpina* baffled all my efforts to obtain it, owing to its extreme tameness; it obstinately refused to remove to a distance sufficient to avoid my blowing it to pieces; and, situated as I was on a narrow ledge of rock, I could not retreat. I watched it for the best part of an hour, never at more than fifteen paces from me, and found it far more lively and curious than the Grasshopper-Warbler (*Locustella nævia*), which, after once diving into the recesses of a bush, rarely reappears. I afterwards obtained a specimen near the same locality. A native *cazador* brought me a Twite (*Linota flavirostris*), male Cirl-Bunting (*Emberiza cirlus*), several Black Redstarts, Willow-Warblers (*Phyllopneuste trochilus*), Sparrows, and Goldfinches,—also a Water-Rail (*Rallus aquaticus*), but nothing rare, though both Baillon's and the Little Crake (*Ortygometra pygmæa* and *O. minuta*) are not uncommon on the Segura. I also saw one Kingfisher (*Alcedo ispida*). Thrushes were very abundant in the orchards; and amongst them I noticed a few Redwings (*Turdus iliacus*); but the main body of the latter had not yet arrived. On my return to Murcia, I noticed in the market numbers of the Common Starling (*Sturnus vulgaris*) for sale, and was assured that, after being bled to take away the bitterness of their flavour, they were very good eating. In a cage was a Common Sparrow which had learnt to sing like any Canary, and for which the owner asked an enormous price.

---

* Ibis, 1866, pp. 173–187, 377–392.

From Murcia I proceeded to Malaga, where it was my intention to pass the winter; and under its genial climate I gradually threw off my rheumatism, and became as well as ever I had been in my life. I lost no time in exploring the flat district at the mouth of the Guadalorce, the nearest branch of which enters the sea at about a league from the city; but though I had the run of the sugar-estates in that district, and enjoyed the society of some of the best sportsmen of the neighbourhood, nothing of rarity was brought to bag. Marsh-Harriers (*Circus æruginosus*) and Kestrels (*Tinnunculus alaudarius*) were extremely abundant; and in the course of the day one was sure to see either *Aquila bonellii* or *Circaetus gallicus*, or both, hunting over the marshes and cane-brakes; but they always kept out of range even of a wire cartridge. All of the former that I then observed were adults; and the Museum possesses a very fine specimen, also an enormous female of the latter species. The Osprey (*Pandion haliæetus*) also was sometimes to be recognized. The usual bag consisted of Woodcock (*Scolopax rusticola*), Common and a few Jack Snipe (*Gallinago scolopacinus* and *G. gallinula*), Wild Duck, Teal (*Anas boschas* and *A. crecca*), on the drier ground Lapwing (*Vanellus cristatus*), Golden Plover (*Charadrius pluvialis*), and a few Quail (*Coturnix communis*) among the cotton-plantations; but the main body of the last does not arrive till April. In the market, which I visited regularly, I observed abundance of Red-legged Partridge, Golden Plover, Stone-Curlew (*Œdicnemus crepitans*), from the dry watercourse of the Guadalmedina, a few Black-tailed Godwit (*Limosa ægocephala*), and also one Grey Plover (*Squatarola helvetica*) and one Dotterel (*Eudromias morinellus*). In the market for small birds were strings of our Skylark and Great Bunting (*Emberiza miliaria*), mingled with a few Cirls and Ortolans (*E. hortulana*), Crested and Calandra-Larks (*Alauda cristata* and *A. calandra*). Sparrows were also largely consumed; and from the huge piles I picked out fine specimens of *Petronia stulta* and *Passer hispaniolensis*. The Song-Thrush (*Turdus musicus*) was also to be seen by hundreds, and Redwings by scores every morning; but never, amongst the thousands which in the course of my residence I examined, did I detect a single Fieldfare (*T. pilaris*), nor did I ever hear its note when shooting. This is strange, as the Redwing, an inhabitant of equally northern latitudes, is almost as abundant in winter as the Song-Thrush. I need not, however, further specify the birds of little interest with which I became acquainted.

The winter of 1867–68 was unusually severe; and wolves having made their appearance in the Sierra de Gaitanes, I joined a shooting-party, and thus became acquainted with a fine haunt of raptorial birds. The shots and cries of the beaters seemed to have fetched up all the Vultures of the district to see what was the matter; and at one time the air was alive with *Vultur monachus, Gyps fulvus,* and *Neophron percnopterus.* I also noticed a pair of *Gypaetus barbatus,* several of *Aquila bonellii,* and one of *A. chrysaetus.* But the most numerous on that occasion was decidedly *Vultur monachus*; and the rarest was *Neophron percnopterus.*

The severity of the season had been such that it was useless to go up to Granada in February, in time for working the Sierra Nevada, after Læmmergeiers; and the accounts of wet and bad weather in Seville kept me in Malaga longer than I had originally intended. On the 10th of February I took steamer for Cadiz, and arrived there the following day without encountering any further novelty than the sight of hundreds of Gannets (*Sula bassana*) fishing off Tarifa. On the 19th, on my way up to Seville, I observed several Storks (*Ciconia alba*) and large flocks of Cranes (*Grus cinerea*), which seemed far less alarmed at the train than I should have expected; indeed one party allowed it to come within a hundred yards. I saw several specimens of *Grus virgo* in the flesh, and one which had been captured alive; but I never succeeded in shooting one. I recognized my old acquaintance *Circaetus gallicus* and Harriers everywhere. Round the grand cathedral numbers of the Common Kestrel were hovering, also a few of the Lesser Kestrel (*Tinnunculus cenchris*); but the main body of the last does not come over from Africa till April. Swallows I had noticed on the 5th February, and now I found the House-Martins (*Chelidon urbica*) busy building their nests; but even they were not quite the earliest breeders, as I heard of two eggs of *Milvus ictinus* taken near the city in January.

To avoid repetition hereafter, I will pass on at once to Granada, where I arrived on the 13th of March, to find the Sierra Nevada quite impracticable, owing to heavy falls of snow, all the native *cazadores* refusing to go at any price.

There are here two good museums, in which, besides ornithological treasures, I found fine specimens of *Capra hispanica.* The stuffer assured me that *Vultur cinereus* bred in the rocks of the Sierra—an assertion that I was then slow to believe, but have since had proof of its correctness. I had also the pleasure of handling a fine Læmmergeier of the year, which was brought in by one of the *cazadores*.

Having to go through another "course" at the baths of Archena, I decided upon taking the little-used road across country to Murcia. As far as Baza there is a small diligence, which starts somewhere between 1 and 2 A.M.; and at 4 o'clock on a March morning I found myself in the gorges of the Sierra Nevada, down which, on icy breeze, swept snow everywhere. At sunrise the scenery was superb; and any traveller who has merely visited Granada, without going on as far as Guadix, has little idea of the real beauties of that range. Neither in Switzerland nor the Pyrenees, not even in the Peruvian Andes, have I ever seen anything finer than the *back* of the Sierra Nevada, whereas the prospect from Granada, though always beautiful, is surpassed by several views I could name. A pair of Læmmergeiers, accompanied, to my surprise, by a bird of the year, swept over us in circles for some time, and once came almost within a long shot, as if they knew that there was no danger to be apprehended from our clumsy conveyance. Here alone was a sufficient reward for getting up at midnight and being frozen afterwards. Ravens (*Corvus corax*) were numerous; and as we emerged from the defiles of the mountains, and came down upon the desolate tablelands, we fell in with large flocks of Choughs, which consisted, I believe, of both species (*Pyrrhocorax alpinus* and *P. graculus*); with regard to our own bird (*P. graculus*) I am quite certain, as I got quite near enough to distinguish the brilliant red bill. We reached Baza at sundown, and after a good supper, washed down by the famous red wine of the district, and an animated wrangle with regard to mules for the next day, I retired to rest in a huge trapezium of a room.

For the following two days (usually three days' journey), there was literally *no* road open, though one is being made in places. The system here is to make a bit (of, say, three leagues), then leave a gap, and go on afresh; so that the best way, even on mule-back, is to go across country at once. It was a regular white fog in which we left Baza at daybreak; and though I saw a pair of Ravens feeding their young in a nest not forty feet high, I was far too cold to obey my usual instincts and pay them a visit. Vast flocks of Rock-Doves (*Columba livia*) and Choughs were every moment passing over our heads from their roosting-places in the mountains; and the two species of the latter were always distinguishable by their note. Crested Larks strutted along the road, scarcely taking the trouble to get out of our way; and I saw one single Woodpecker, utterly out of place in such an arid spot; but few birds of prey were visible, until we arrived at Lorca, on the evening of the second day, when we saw several Bonelli's Eagles, which are abundant there. From Lorca to Murcia runs the very fastest diligence in which I ever travelled; and I was soon established in my old quarters at the baths of Archena. I had fully expected to find the Black Wheatear, Rock-Thrush, and some other birds breeding here; but all my search was vain, nor could the urchins of the place discover an egg of any kind. I came upon a small colony of Crag-Martins; and the female of a pair I obtained had the belly completely denuded; but though I spent hours for several days in succession amongst the rocks, I never could find a nest. I obtained my specimens on the 28th of March, and, having completed my treatment, returned to Murcia, where I was sorry to find my friend Dr. Guirao suffering from such severe domestic affliction as utterly to preclude conversation on ordinary topics; I was therefore unable to procure specimens of the Petrel before mentioned, as well as other interesting birds which he had promised me. Every day was now of consequence; and I got back to Malaga as soon as possible, whence I started on the 9th of April for a village in the Gaitanes range.

It was quite early in the day when I arrived there; and having secured the services of a certain professional hunter named Juan, the finest cragsman (without a rope) I ever saw, we proceeded to examine the cliffs for Vultures' nests. He insisted on my being too early, as the season was fully a month later than usual, and, in proof of this assertion, he pointed out nest after nest of both Cinereous and Egyptian Vultures, all without lining, or *cama*. But the latter were repairing the old nests, and at one point a pair of Bonelli's Eagles were visible;

at that time, however, we were unsuccessful in discovering their abode. As we were resting, a fine Læmmergeier sailed slowly over our heads; but my man said that there was no eyry nearer than the gorge of El Chorro, and only one or two, at most, even there; the Griffon Vulture also bred in that locality. He knew all the eggs of the above-mentioned species well, and I conceived great hopes of a good harvest.

The following day we started again for the cliffs, accompanied by another man with ropes, and proceeded to examine every nest bearing any sign of fresh lining. For a long time we were unsuccessful, merely causing great excitement amongst the Kestrels, every one of which seemed to imagine that its nest was the object of our search. At last an Egyptian Vulture flew off in such a way as to convince me that she had eggs; and on descending with the rope I found two richly-marked ones quite fresh. All the other coverts were drawn blank; and after carefully noting two nests of Rock-Thrush in course of construction, we worked back to a longitudinal fissure in which I was told the Eagle-Owl (*Bubo maximus*) bred. Scarcely had I "swarmed" up the rope let down from above, when I put my hand on the fresh thigh of a rabbit, evidently part of the Owl's last repast. This showed we were on the right track; but after working with the crowbar for upwards of an hour, we found that the ledge merely led to a labyrinth of small holes, the bottom of which no stick we had would reach; so we were compelled to give it up. There was great excitement on our return. Of course my friends could not imagine what I wanted with the eggs; the most sensible supposition was that they were for hatching out in my own country; and one good lady said that as Eagles and Vultures lived an eternity, I must want to suck their eggs and so live to the age of Methusaleh. But when the precious contents which were to have conveyed immortality were voided on the ground, there was no way of accounting for my peculiar tastes. However, all were quite alive to the propriety of getting eggs at the prices I named; and, promising to return in May, I started for Cordova, leaving the working of the Chorro to my men, as I wanted to be back in Seville. I spent several days on the way, productive of little but some capital Quail-shooting and useful information.

In Seville I made arrangements with a noted marshman, to go down into the plains with him after the Bustards (*Otis tarda*) and anything else we could get—though for the marsh-breeders, and especially the Flamingos (*Phœnicopterus roseus*), it was too early. He at once began making excursions into the Marisma, and on the 20th of April came in with the news that the principal arrival of Bustards had taken place. Laying in provisions for several days, we soon found ourselves in the great plains to the south of the city. A promising marsh, over which more than a score of Marsh-Harriers were hovering, lay in the way; and we had not worked it long when a fine Purple Gallinule (*Porphyrio veterum*) rose heavily from under Manuel's feet, and next instant a shout of "Nido de Gallo-azul y tres huevos" brought me floundering through mud and water knee-deep to the spot. This was the only nest we found of this species; but it is by no means rare; it is said to breed very early; my own belief is that it has two broods. As for Marsh-Harriers, there were at least twenty nests in that single marsh; one seemed to come upon them every few steps. Only one had its complement of five eggs two days afterwards. I had left one of the eggs of the Gallinule in hopes that the bird might lay more, and on my return I was concerned to see a Marsh-Harrier hover and finally settle down just over the site of the nest. Pushing my way to the spot, I fairly ripped the robber open with a charge of large shot, finding her bill still dripping with the yelk of the precious egg, worth more to me than all the Harriers together. From that moment I naturally vowed vengeance against *Circus æruginosus*, so far as Spain was concerned. Though damaged, the egg was not absolutely destroyed; and, to crown all, the next moment one of the dogs got hold of the male *Porphyrio*, which is now in my collection.

It is not my intention to extend this paper by giving details of our sport in Bustard-shooting on this and subsequent occasions, especially as it greatly interfered with general ornithology. The males had separated from the females, and we often saw flocks of from ten to fifteen; they were very wary, but it was by no means difficult to crawl to within such a distance as to observe their habits through a glass. Even when away from the influence of female society, they were constantly swelling themselves up, ruffling their feathers in the manner depicted in Mr. Wolf's admirable figures in his 'Zoological Sketches' and in Mr. Gould's 'Birds of Great Britain,' and occasionally indulging in bickerings amongst themselves, though I never witnessed a regular "set-to." Besides stalking Bustards, we also obtained them in a somewhat poaching manner, by "shining" them at night with a rough kind of dark lantern. It is dangerous work, as the moment the light is displayed, on coming to their roosting-ground, they dash about in the wildest confusion; and, besides that twenty or thirty pounds weight charging against one is no joke, there is a fair chance of getting a charge of slugs or large shot at ten paces from one's comrades. We never succeeded in bagging a very fine old male; the heaviest female I got weighed 18lbs. Spanish when cleaned. Of course Bustard-hunting involves lying out all night, and for several nights in succession. The main body of the Cranes had left; but some remain to breed, and we had a long and unavailable stalk after a pair. The half-wild cattle are the greatest hindrance to the stalker, from their curiosity, not to say downright hostility at times. At the best, it is nervous work to find yourself the observed of some two hundred cows, each watching jealously over her calf, especially when you know that the said cows belong to the *ganado bravo*, and that every one of them has taken four *varas* in a *tentadero*, or trial of bravery, before she was allowed the privilege of being considered a *vaca brava*. It is true, the districts of the *ganado bravo* are limited and well known; but if you want Bustards you must follow them up everywhere.

Our provisions ran short before we could get down to the wooded Cotos del Rey and de Doñana; but on the 30th April we made another start. Our first nest was a Black Kite's (*Milvus migrans*), which contained one egg quite fresh. In the foundation of the nest was one of a Spanish Sparrow, with two eggs. On this occasion I was accompanied by an English friend, Manuel, and two of his sons, the youngest a regular monkey at climbing. The Coto del Rey, which we first entered, is principally covered with scrub and small timber, mingled with clumps of large size, generally in a ring with a marshy clearing in the centre.

Although we saw and heard several Great Spotted Cuckoos (*Oxylophus glandarius*) about, we were unable to shoot any; but by dint of examining every Magpie's (*Pica melanoleuca*) nest we came to, we secured several eggs. We next made for a nest of Imperial Eagle (*Aquila heliaca*) of which Manuel knew, and, on approaching the place, saw one of the old birds sitting on a branch of a lightning-scathed tree on the edge of one of the aforesaid ring-clumps, while the other bird was discernible high in air. On getting near enough to make out the light-coloured head and scapulars, the former went off; and we were soon cutting our way through the briars to the foot of the tree, in which there were two nests, both, alas! empty and apparently old. We set to work to explore the clump, in which there were nearly a dozen nests of Black Kite, some with eggs, others building; and soon a shout from the lad announced the discovery of the present year's nest of *A. heliaca*. Unfortunately it also was empty. It was very large, but deeper than any other Eagle's nest I have seen, and thickly lined with rabbits' fur. I fear it had been robbed, as on our second visit, some days later, we did not see the birds, and the nest was still empty.

A little further on, as I was descending from a Black Kite's nest, Manuel whispered, "Would you like to shoot a *Milano* on the nest?" to which I replied, "Any villany;" and, creeping through the brushwood, I perceived a nest lying out on a fork of a large ash, from which projected the tail of a bird, which I at once saw was no Kite's. I felt a slight thumping of my heart as I cautiously crept round to the front, and stood out to give myself as fair a shot as possible. Off went the bird, and down came a very old female Booted Eagle (*Aquila pennata*), just as I expected. The nest was lined with green boughs, and contained two eggs, very hard-set. This was on the 1st of May. Taking an occasional look at a Kestrel's or Black Kite's nest, we reached an old colony of the Night-Heron (*Nycticorax griseus*), but found that, owing to timber-cutting, the birds had gone elsewhere, and merely the old nests remained, to the number of several hundreds. They were all in bushes, at from six to fifteen feet up. As we were riding through a pine-wood, a large bird of prey dashed off her nest, and Manuel pronounced it to be "a very rare Eagle," not the same as the Booted by any means. We accordingly left the place, and, unsaddling at the nearest cover, spent upwards of two hours in vain attempts to obtain the bird. The great difficulty was in the absence of scrub as cover, and in the number of Black Kites which were dashing about everywhere. I managed to observe the bird well through my glass, and heard it repeatedly utter a mewing cry. My belief is that it was a Buzzard, either *Buteo vulgaris* or *B. tachardus*; but it certainly was not the Booted Eagle. The nest, which was plentifully lined with green boughs, contained two eggs—the one rather small, of a rough granulated texture, exactly, to my eye, like that of the Booted Eagle, the other slightly marked, of a more shining texture, and, in a word, a regular Buzzard's egg. Both eggs were considerably incubated; but unfortunately it did not occur to me, at the time of extracting the chicks, to examine the tarsi particularly. It has entered my mind that perhaps the Buzzard had taken possession of the Eagle's nest with one egg laid, and kept it afterwards. Otherwise it shows that the Booted Eagle is not singular in the use of green boughs as lining.

Emerging from the large timber, in the old boles of which numbers of Jackdaws (*Corvus monedula*) had their nests, we put up a Bittern (*Botaurus stellaris*) and a Purple Heron (*Ardea purpurea*) simultaneously from opposite sides of a swamp; and, trying to mark down both, got neither. A long and ineffectual stalk after a fine Great White Heron (*Ardea alba*) and a hasty raid on the breeding-grounds of the Pratincole (*Glareola pratincola*) and Stilt (*Himantopus candidus*) closed that day.

At daybreak next morning we turned our backs on anything like a shrub, and plodded for miles across a vast plain, starting numbers of Short-toed Larks (*Alauda brachydactyla*) from their nests, whose contents we were often too late to save from the dogs, which showed a wonderful talent for egging. Hundreds of *Sterna hybrida* wheeled round us; Buff-backed and Squacco-Herons and Little Egrets (*Ardea coromandra, A. ralloides,* and *A. garzetta*) were constantly in view, though wary; and Storks, Pratincoles, Kentish Plovers (*Ægialitis cantianus*), and Redshanks (*Totanus calidris*) were found near every marshy spot. A fine male Crane was trumpeting loudly some two hundred yards off; and as we were standing up in our saddles, watching for any motion in the reeds to indicate the presence of the female, she suddenly made her appearance, and soon convinced us by her movements that she had sneaked off the nest long ago. Stalking was useless. The corpse of an immature *Vultur monachus* was lying by the skeleton of a dead mule; and everywhere amongst the cattle were immature Egyptian Vultures feeding on the soft droppings of the calves; hence their Andalusian name of *Rejileros*. From information we received from some herdsmen, attended, as usual, by their magnificent white dogs, we gave up any idea of proceeding further along this treeless waste, and bent our steps to the more wooded portion of the Coto de Doñana, which we had now entered. At noon we were again in the midst of old timber swarming with Green Woodpeckers (*Gecinus viridis*) and Hoopoes (*Upupa epops*). The latter had not yet begun to lay. We were now in the cork-woods, and soon among several nests of Black Kites, finding also one of the Common Kite with two young birds. I called Manuel's attention to a large Eagle on the wing, to which he replied that we were going straight to its nest, which was every year in one or other of a clump of trees to which he pointed, adding that it was a very large Eagle, and never had but one, quite white egg. Sure enough, there was the nest, in a large cork-tree, on another branch of which a pair of Black Kites were building. The nest had evidently been used several seasons. It contained one white egg, as large as a Sea-Eagle's. The chick was ready to hatch. We could not obtain the old birds; but I watched the female for a long time with a glass whilst one of the lads was lying in wait for her, and made her out to be *Circaetus gallicus*, even if the naked tarsi of the chick had not been sufficient proof. The egg is far larger than one I have in my collection from Styria, but not larger than another taken by a friend of mine in the Algesiras cork-woods, from which he shot the old bird. A nest of the Common Kite, with one egg, a few more Black Kites, and a splendid male

Little Egret concluded the day. Shortly before sunset we passed a tree perfectly covered with *Vultur monachus, Gyps fulvus,* and *Neophron percnopterus,* the last looking very small by the side of its gigantic allies.

Next day we were doomed to disappointment. First we found another nest of *Circaetus gallicus,* the egg in which was hatched, and afterwards the whole nest had slipped and tilted the young bird out into a thicket of briars, round which the old birds were wheeling, screaming wildly. Then we got to an estate where there was a small marsh. It had been worked the previous evening for eggs for eating, and the ground outside the house was strewed with fragments of those of *Fulica cristata, Porphyrio veterum,* and some kind of Heron, probably *Ardea purpurea,* most of which had been thrown away, being partially incubated. A large wooded marsh, full of old nests of Squacco- and Buff-backed Herons and Little Egrets, and, as I was told, of Spoonbills (*Platalea leucorodia*), was utterly silent; and our only spoils of any value were two eggs of Common Kite and two of Great Spotted Cuckoo. At night we got back to a hut by a good marsh for Stilts and Pratincoles; and the appearance of the sky showed that we were in for a wetting next day.

As soon as it was light we hastened to the marsh, filled a couple of baskets with marsh-birds' eggs, principally Stilts', Pratincoles', and Kentish Plovers', and then rode for fourteen hours in the heaviest rain I ever saw in Europe. At sunset it changed to hail, suddenly, by way of improvement. My skins were a sorry sight; but, though the horses came down several times in fording the streams, comparatively few eggs were broken. We saw plenty of Bustards; but it was no time for shooting. I would not even stop for a Stork's nest, which I had had a great desire to pillage.

Scarcely had I got back to Seville when I received news from the mountains that my men had found a nest of Bonelli's Eagle; so I was off again, and, after about ten hours' journey, found myself again amongst my friends. The village had "come out strong" in the way of Griffon Vultures; for it seems that the *cazadores* delayed their visit to the Chorro until most of the eggs were hatched, and then, thinking they might as well sweep the ledges clean, had carried off eggs and young indiscriminately. The result was, young Griffons disputing the offal with the dogs at every turning. But the news was not good. It had been a very bad year for Vultures generally (they were away in Morocco feeding on the Moors and Riffites; and not a single *Vultur cinereus* had an egg that my men knew of. We went off to see the nest of Bonelli's Eagle, which was in a "stack" of mountains about fifteen hundred feet high, and situated some two hundred feet from the lowest point to which we could descend. We saw both birds, one carrying a Partridge in its claws—which looked as if they had young. Next day I sent two men round to the top with ropes, while I with Gabriel, brother of my man Juan, a first-rate cragsman, climbed, with great difficulty, and passing the gun from hand to hand, to within shot of the nest—without exception the very worst piece of cragging I ever did. The male bird came sailing by, a longish shot; but I did not fire, imagining the female to be on the nest, which we were then approaching. It turned out, however, that she had been off when the men got to the top, and on seeing them, as she came back with another Partridge, had wheeled off without showing any concern, or betraying any consciousness of having a nest. The male behaved exactly in the same way. It took us some time to get round to the top of the rock, and then to arrange the ropes, at which my fellows, who were first-rate men wherever they could go without a rope, bungled so much that I went down myself. On getting to the level of the nest I found it contained two nearly fledged Eaglets; but the cliff overhung so much that I had to ascend to get a stick to push myself off, and so swing in, before I could reach them. The young cowered down in the nest; and even when I tied them up with my braces, they scarcely uttered a sound. This done, I groped about in the nest, which was full of feathers, and found an egg, evidently laid by some bird which had been brought there alive. I do not mean to say that it is a Francolin's egg, as that bird is not found in Spain to my knowledge; but it is uncommonly like one, being deeply granulated and of the colour of that of our *Perdix cinerea,* which is as rare in Southern Spain as the Francolin. Securing this egg, I mounted with my freight, which I am happy to say I brought safely to London, and they are now in the gardens of the Zoological Society. As we were reposing on the summit, we witnessed a migration of Honey-Buzzards (*Pernis apivorus*), consisting of several hundred birds. Alpine Swifts (*Cypselus melba*) were dashing like lightning along the face of the cliff; and a pair of Falcons, apparently *Falco peregrinus*, had a nest which we were unable to discover. A few Cinereous and Egyptian Vultures were also visible; but we could not find any nests with eggs. Several of the latter had been previously taken for me. A few nests of small birds, amongst them *Saxicola leucura*, concluded the day's work; and on the following I went back by way of Cordova, the market-place of which was quite gay with cages full of Rollers (*Coracias garrula*) and strings of Bee-eaters (*Merops apiaster*). The females of the latter had already taken up their quarters in the holes of the banks, ready for laying, and the males were bringing them food; but there were no eggs as yet. Some females had them almost ready for exclusion. I believe that the female Bee-eater never leaves her hole, unless disturbed, from the time she goes in to lay until she has hatched her brood; and I know that when that has taken place, she is so besmirched with filth as to be almost unable to fly.

I had not been back in Seville an hour when I was called off to a *tentadero*, or trial of young bulls for the ring, in that part of the plains watered by branches of the Guadalquivir called the Isla Menor. On our way we took little but some nests of *Lanius auriculatus*, *Alauda cristata*, and, lower down, *A. calandra*; but after disposing of the bulls, we turned our attention to Bustards (*Otis tarda*), and in the course of the day discovered four nests—two with two eggs each, one with one, all fresh, and one with three, very hard-set. It would have given an English farmer a fit to see a party of men and dogs working through wheat and barley breast high; but the only proprietor we saw seemed rather to like it, and assisted us as much as lay in his power. Manuel, who had lived among Bustards for some forty years, told me that he had twice found nests with *four* eggs, and once a sitting of *five*! from which he shot the hen bird. The usual number is two or three. Nest, strictly speaking, there is none, merely a scratching in the soil. They are not hard to find, as the bird leaves both a broad trail and a very strong scent—so much so that the dogs were always up first. More Harriers and a Quail's nest wound up the day.

My last excursion was to some pine-woods, in which I found *Caprimulgus ruficollis* abundant, and obtained many specimens. *Cyanopica cooki* swarmed, breeding generally in small colonies. *Lanius auriculatus* was also abundant everywhere. We got a few Bee-eaters' eggs after tremendous digging; but, even on the 16th of May, very few had begun to lay. *Aedon galactodes* was abundant; but we only obtained two nests, which came utterly "to grief," thanks to "those boys." My very hours were now counted, as, in order to attend to my young Eagle, I had made up my mind to return home by sea in one of the Seville steamers. Manuel, however, made a flying excursion to the *pajareras*, as the breeding-place of the swamp-birds is called. They had not begun to lay; but they had assembled, and on the 21st he came in with a huge basket containing Little Egrets, Buff-backed and Squacco-Herons, and Glossy Ibis, mostly in the finest plumage, some of the Squaccos still rather bare about the neck. We were hard at work skinning till past midnight, and at 6 A.M. I was on my way to Cadiz to join the steamer for London.

XV.—*On a Collection of Birds from the Fantee Country in Western Africa.* By R. B. SHARPE.

(Plate IV.)

A SMALL collection of Birds formed in the vicinity of Cape-Coast Castle has lately been submitted to my inspection by Mr. E. T. Higgins, of Bloomsbury Street; and as I believe some of the species contained therein to be of considerable rarity, I have taken an early opportunity of bringing a list of the birds before the notice of ornithologists.

The only record of any collection made in the precise locality from which the present series comes, that I have been able to discover, is the small list of birds obtained by Dr. Gordon at Cape-Coast Castle, and recorded by Sir William Jardine in the 'Contributions to Ornithology,' for 1849 (pp. 1–13). Dr. Hartlaub, however, has published (Journ. f. Orn. 1855, pp. 360, 361) a list of the birds collected by the well-known Heer Pel, between Cape Three-Points and Accra; and as this list includes most of the species contained in the present collection I have thought it advisable to refer to it. The species, twenty-one in number, not hitherto recorded as having occurred in the country, have a dagger (†) prefixed to their names.

1. MELOCICHLA MENTALIS (Fras.); Hartl., Orn. Westafr. pp. 58, 271; *Drymœca mentalis*, Jard., Contr. Orn. 1849, pp. 7, 14, pl. 1.

One specimen. This bird was obtained by Mr. Fraser at Accra, and at the present locality by Dr. Gordon.

2. STIPHRORNIS ERYTHROTHORAX, Temm.; Hartl., Journ. f. Orn. 1855, p. 355; *Id.* Orn. Westafr. p. 63.

Two examples. The type-specimens of this bird were obtained at Dabocrom by Heer Pel.

3. PITTA ANGOLENSIS, Vieill.; Hartl., Journ. f. Orn. 1855, p. 360; *Id.* Orn. Westafr. p. 74; *Brachyurus angolensis*, Elliot, Monogr. *Pitt.* pl. v.

One specimen of this beautiful species, which was also obtained by Heer Pel in the same neighbourhood.

†4. TURDUS PELIOS, Bonap.; Hartl., Orn. Westafr. p. 75.

One example.

†5. TRICHOPHORUS GULARIS, Swains.; Hartl., Orn. Westafr. p. 82.

Two specimens, agreeing with Swainson's description.

6. TRICHOPHORUS INDICATOR, Verr.; Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 84.

Two examples, agreeing with Dr. Hartlaub's description.

7. IXUS ASHANTEUS, Bonap.; Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 88.

One specimen in the collection. The measurements do not quite agree with those given by Dr. Hartlaub, as will be seen by the annexed. Whole length 7 inches, bill 0·65, wing 3·4, tail 3·5, tarsus 0·85.

8. Nectarinia splendida (Shaw); Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 46.

One example in fully adult plumage.

9. Nectarinia cuprea (Shaw); Hartl., Journ. f. Orn. 1855, p. 360; *Id.* Orn. Westafr. p. 48.

Two specimens, one in fully adult plumage, the other in a transitional stage.

10. Nectarinia chloropygia, Jard., Ann. Nat. Hist. x. p. 188, pl. 24; Hartl., Orn. Westafr. p. 47.

One specimen. Sent also from Elmina by Herr Weiss (*fide* Hartlaub).

11. Nectarinia cyanocephala (Shaw); Hartl., Orn. Westafr. p. 49.

One specimen. Obtained also at Cape-Coast Castle by Dr. Gordon, and at Elmina by Herr Weiss (*fide* Hartlaub).

12. Hirundo gordoni, Jard., Contr. Orn. 1851, p. 141, 1852, p. 57; Hartl., Orn. Westafr. p. 27. *H. melanocrisus*, Jard., Contr. Orn. 1849, p. 4 (*nec* Rüpp.).

This species was originally described by Sir Wm. Jardine from specimens obtained at Cape-Coast Castle by Dr. Gordon. Very nearly allied to it is *H. semirufa*, Sundevall, of which I have, thanks to Mr. Gurney, a fine specimen from the Trans-Vaal territory. This differs from *H. gordoni* in being slightly stouter, though the bill is smaller. The wing, however, is much longer, and the rectrices broader, the white spot on the latter being very much larger and more distinct. The whole length of *H. gordoni* is 7 inches, the wing 4·4; the whole length of *H. semirufa* is 8 inches, the wing 5·1.

13. Hirundo leucosoma, Swains.; Hartl., Orn. Westafr. p. 27.

This species also, though not hitherto recorded from the present locality, has been met with at Accra by Mr. Fraser (P. Z. S. 1843, p. 51).

†14. Tchitrea nigriceps (Temm.); *Muscipeta nigriceps*, Hartl., Journ. f. Orn. 1855, pp. 355, 361; *Id.*, Orn. Westafr. p. 91.

One example.

†15. Bias musicus (Vieill.); Hartl., Orn. Westafr. p. 92.

One specimen.

16. Platystira melanoptera (Gmel); Hartl., Orn. Westafr. p. 93; *P. lobata,* Jard., Contr. Orn. 1849, p. 8.

One example, recorded from the present locality by Dr. Gordon, but not since met with.

17. Campephaga phœnicea (Lath.); Hartl., Orn. Westafr. p. 98.

One example, a female.

†18. Campephaga quiscalina, Finsch, sp. nov.

Campephaga nigra, Cassin, Proc. Acad. Philad. 1859, p. 52; *Lanicterus niger,* Hartl., Journ. f. Orn. 1865, p. 173 (*nec* Vieill.).

> " *C.* nitide nigra, æneo resplendens: remigibus sericeo-nigris, æneo-marginatis: capitis lateribus, mento, gutture et subalaribus splendide violaceo-purpurascentibus. Rostro pedibusque nigris."

Deep black with a brilliant metallic-green lustre, especially on the rump and upper tail-coverts; remiges and rectrices black, bordered externally with metallic green; lores velvet-black; throat, sides of the head and neck shining purple-violet.

Having been unable to make out this bird, of which the collection contains a single example in very bad condition, I sent it to my friend Dr. Finsch, who tells me it is new, and I am indebted to him for the description given above, as well as for the following observations:—

" Your *Campephaga* seems to be undescribed; and I therefore do not hesitate giving it the name *quiscalina,* from the *Quiscalus*-like gloss on the throat. This species has apparently been confounded with the true *C. nigra* of Vieillot (Levaill. Ois. d'Afr. pl. 165), from which it differs in having the sides of the head and neck and the entire throat of a brilliant purplish-violet (these parts being black in *C. nigra*), in the inner web of the quills being without any olive-green lustre, and also in having the bill shorter, broader, and more conical."

The comparative dimensions of the two species are as follows:—

C. quiscalina Long. tot. 7½″, al. 3″ 7‴, caud. 3″ 3‴, rostr. a fr. 5‴.
C. Nigra.. „ 8½″, „ 5″, „ 3″ 7‴ „ 6‴.

†19. Dicrurus coracinus, J. & E. Verr.; Hartl., Orn. Westafr. p. 101.

Two specimens apparently referable to this species.

20. Lanius smithi (Fras.); Jard., Contr. Orn. 1849, p. 8; Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 103.

One specimen of this fine Shrike, which was first described by Mr. Fraser from birds procured in the present locality, where it was afterwards met with by Dr. Gordon and Heer Pel.

21. Laniarius barbarus (Linn.); Jard., Contr. Orn. 1849, p. 8; Hartl., Orn. Westafr. p. 107.

Two specimens are in the collection. Dr. Gordon also obtained it at Cape-Coast Castle.

22. Laniarius chrysogaster (Swains.); Jard., Contr. Orn. 1849, p. 8; Hartl., Orn. Westafr. p. 107.

Dr. Gordon states that this species is rare in the neighbourhood of Cape-Coast Castle; and until the present instance no one else has since met with it in that place. The single specimen now sent agrees with others in my collection from the Gambia, from Cunene River (*Andersson*), and Lake N'gami (*Chapman*).

†23. Dryoscopus major, Hartl., Orn. Westafr. p. 112.

A single specimen of a Bush-Shrike is in the collection, which I believe to be of this species. It agrees exactly with Dr. Hartlaub's description, with the exception of the outer tail-feather having the tip white, a fact not mentioned by him. I cannot say to how many of the tail-feathers this white mark would extend, as my bird is in bad order, and has only one middle and one outer rectrix left.

24. Chaunonotus sabinii (Gray); Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 113.

One specimen of this beautiful Bush-Shrike is in the present series. It was likewise obtained by Heer Pel.

25. Pholidauges leucogaster (Gmel.); Hartl., Orn. Westafr. p. 120.

Several examples of this lovely bird, but few in adult plumage, most of them being in a transitional stage.

26. Hyphantornis textor (Gmel.); Jard., Contr. Orn. 1849, p. 9; Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 124.

Two specimens of this species, which has previously been met with in the same locality by Dr. Gordon and Heer Pel.

27. Hyphantornis castaneofuscus (Less.); Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 126.

Two examples of this Weaver-bird, which has also been sent from the Rio Boutry by Heer Pel.

28. Euplectes flammiceps, Swains.; Jard., Contr. Orn. 1849, p. 9; Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 127.

This bird would appear to be common at Cape-Coast Castle. It was observed both by Dr. Gordon and Heer Pel; and the present series contains several specimens. Some of these are in full breeding-plumage, others partially assuming it.

29. Euplectes franciscanus (Isert); Hartl., Orn. Westafr. p. 128. *E. ignicolor*, Jard., Contr. Orn. 1849, p. 9.

Several examples of this beautiful species in full breeding-dress. It was obtained by Dr. Gordon.

†30. Nigrita bicolor, Hartl., Orn. Westafr. p. 130.

Of this bird there are three specimens in the present collection. It is not included in the list of Heer Pel's birds; but Dr. Hartlaub states that it is in the Bremen Museum from the Gold-Coast.

31. Sycobius cristatus (Vieill.); Hartl., Orn. Westafr. p. 132.

One specimen apparently referable to this species, and agreeing with Dr. Hartlaub's description (*l. c.*).

32. Sycobius scutatus, Cass.; Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 132.

Two specimens of this bird, which, according to Dr. Hartlaub's description, are male and female. This species is distinguished from the three others mentioned in this paper by its crimson crissum.

†33. Sycobius nuchalis, Elliot, Ibis, 1859, p. 393.

One specimen, agreeing with Mr. Elliot's description.

34. Sycobius nitens (J. E. Gray); Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 133.

One example, agreeing with Dr. Gray's type in the British Museum.

35. Vidua principalis (Linn.); Jard., Contr. Orn. 1849, p. 10; Hartl., Orn. Westafr. p. 136.

One male specimen in the present collection. It was also met with by Dr. Gordon at this same locality.

36. Coliostruthus macrurus (Gmel.). *Vidua macrura*, Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 137.

Several examples of this fine species, which would seem to be by no means rare in the neighbourhood, having been obtained by Dr. Gordon, Mr. Fraser, and Heer Pel.

37. Spermospiza hæmatina (Vieill.); Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 138.

One example. This species was also obtained by Heer Pel.

†38. Spermestes cucullata, Swains.; Hartl., Orn. Westafr. p. 147.

Two specimens of this little Finch, apparently not before recorded from this precise locality.

39. Lagonosticta rufopicta (Fras.); Hartl., Orn. Westafr. p. 143.

One example of this species, which was originally described from specimens procured at the present locality.

40. Scotornis climacurus (Vieill.); Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 23.

Two specimens, both apparently females.

41. Tockus semifasciatus (Temm.); Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 163.

One specimen of this fine Hornbill, also obtained on the Rio Boutry by Heer Pel.

42. Merops albicollis, Vieill.; Hartl., Orn. Westafr. p. 39; *M. cuvieri*, *Id.*, Journ. f. Orn. 1855, p. 360.

One example in a transitional stage of plumage.

†43. Eurystomus afer (Lath.); Hartl., Orn. Westafr. p. 29.

One young specimen of this species.

†44. Barbatula duchaillui, Cass., Proc. Acad. Philad. 1855, p. 324; *Pogonias duchaillui,* Hartl., Orn. Westafr. p. 171.

Two young birds of this interesting species.

†45. Barbatula leucolæma, Verr.; Hartl., Orn. Westafr. p. 173.

Two specimens.

†46. Pogonorhynchus bidentatus (Shaw); *Pogonias bidentatus,* Hartl., Orn. Westafr. p. 170.

Two specimens.

†47. Pogonorhynchus vieilloti (Leach); *Pogonias vieilloti,* Hartl., Orn. Westafr. p. 170.

One specimen.

48. Gymnobucco peli, Hartl., Orn. Westafr. p. 175.

One specimen of this Barbet, which was originally obtained by Heer Pel at Dabocrom.

†49. Corythaix macrorhyncha, Fras.; Gray & Mitch., Gen. Birds, i. pl. 97; Hartl., Orn. Westafr. p. 157.

One specimen.

†50. Corythaix persa (Linn.); Hartl., Orn. Westafr. p. 156; Schl. & Westerm., Monogr. Toerako's, pl.

One specimen, which, however, only shows the least possible tinge of purple on the tips of the crest.

51. Centropus francisci, Bonap.; Hartl., Journ. f. Orn. 1855, p. 361; *Id.,* Orn. Westafr. p. 186.

One example of this rare Cuckoo, of which Dr. Hartlaub has given a very good description; and the present specimen agrees exactly therewith. This is one of the birds obtained by Heer Pel, who met with it on the Rio Boutry.

52. Centropus senegalensis (Linn.); Jard., Contr. Orn. 1849, p. 11; Hartl., Orn. Westafr. p. 187.

Dr. Gordon procured this Cuckoo at Cape-Coast Castle. The single example in the collection is undoubtedly of this species, and not *C. epomidis*, which was the only *Centropus*, besides *C. francisci*, obtained by Heer Pel.

53. ZANCLOSTOMUS AEREUS (Vieill.); Hartl., Orn. Westafr. p. 187. *Z. flavirostris, Id.*, Journ. f. Orn. 1855, p. 361.

One specimen.

54. DENDROMUS NIVOSUS, Swains.; Hartl., Orn. Westafr. p. 183. *Dendrobates nivosus, Id.*, Journ. f. Orn. 1855, p. 361. *Campethera nivosa*, Gray, Cat. *Picidæ* Brit. Mus. p. 80.

One specimen of this bird, which was also procured by Heer Pel, is in the collection.

55. POLYBOROIDES TYPICUS, Smith; Hartl., Orn. Westafr. p. 2.

One specimen, in a transitional stage of plumage. One leg in this skin has dried with the tarsus extending in a backward direction, illustrating exactly the curious habit which this species is said to possess*.

56. HUHUA POENSIS (Fraser, Proc. Zool. Soc. 1853, p. 13). *Bubo fasciolatus*, Hartl., Journ. f. Orn. 1855, pp. 354, 360; *Id.*, Orn. Westafr. p. 18. (Plate IV.)

Of this rare Owl there is one young specimen in the present collection, which exhibits a marked resemblance to *Scotopelia* in its style of plumage. The lower figure in the plate represents this young bird; while the upper one is taken from the fine specimen still living in the Zoological Gardens, which was figured in the 'Proceedings' for 1863 (pl. xxxiii.). Since that time, however, its plumage has undergone a considerable change; so that it seems desirable to refigure it, and thus give an illustration of this magnificent species in three distinct stages of plumage.

57. TRERON CALVA (Temm.); Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 192.

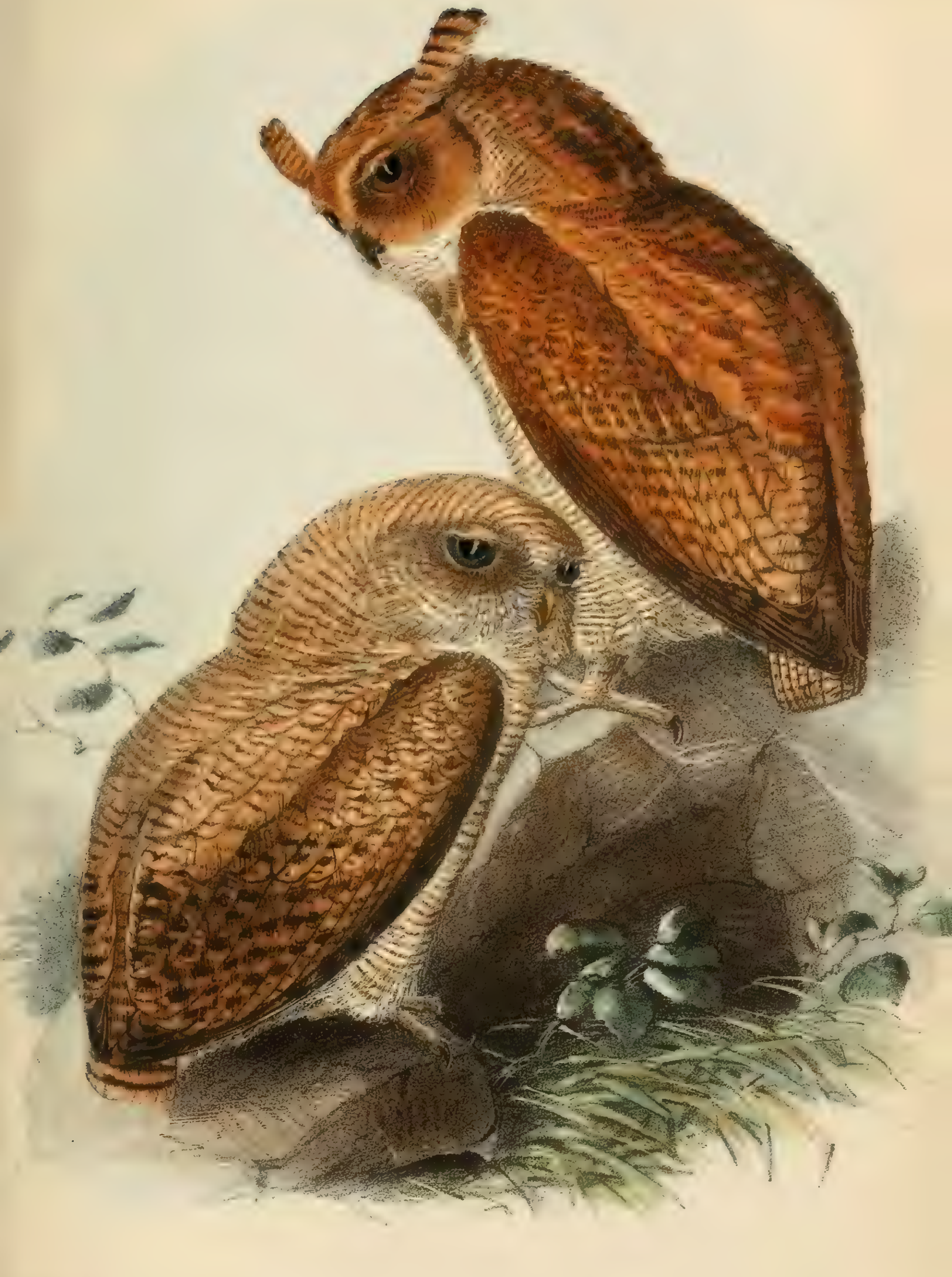
Two examples of this beautiful Fruit-Pigeon.

58. BUTORIDES ATRICAPILLUS (Afzel.). *Ardea atricapilla*, Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 223.

Two specimens of this wide-ranging species, which had already been met with at this same locality.

---

* *Cf.* Gurney, Cat. Rapt. Norw. Mus. p. 14.



Keulemans lith.

M & N Hanhart

HUHUA POENSIS

59. Rallus oculeus (Temm.); Hartl., Orn. Westafr. p. 241. *Gallinula oculea, Id.*, Journ. f. Orn. pp. 357, 361.

One specimen of this splendid Rail, which would appear to be exceedingly rare in collections. At present it has only been met with on the Rio Boutry by Heer Pel, and in Aguapim by Riis, while, according to Dr. Hartlaub, there is a specimen from the Gaboon in the Paris Museum.

60. Limnocorax flavirostris (Swains.); Hartl., Orn. Westafr. p. 244. *Gallinula flavirostris, Id.*, Journ. f. Orn. 1855, p. 361.

One specimen.

XVI.—*Note on the species of the Genus* Hirundinea, *belonging to the family* Tyrannidæ. By P. L. Sclater, M.A., Ph.D., F.R.S., Secretary to the Zoological Society.

(Plate V.)

In the second part of his lately-published 'Ornithologie Brasiliens'*, Herr von Pelzeln has correctly shown that two very distinct species of birds have usually been confounded under the name *Hirundinea ferruginea*. One of these, the true *H. ferruginea*, inhabits the Guianan region, whilst the second, which Herr von Pelzeln (following Prince Max.) calls *H. rupestris*, is its representative in South-eastern Brazil. Professor Reinhardt has recently most kindly forwarded to me for examination a skin of what appears to be a third representative species of this peculiar genus of *Tyrannidæ*. This specimen was obtained by Professor Reinhardt, during his voyage round the world in the 'Galatea,' from Don Mariano Rivero, of Lima, along with the beautiful Tanager (*Iridornis reinhardti*) which I figured and described in 'The Ibis' for 1865, and was stated to have been received from Eastern Peru. I was at first inclined to agree with Professor Reinhardt in regarding this bird as undescribed; but after carefully perusing Azara's original description of his "*Suiriri roxo obscuro*" (Apunt. ii. p. 129), I feel nearly convinced that it is the same as the Paraguayan form upon which Vieillot has founded his *Tyrannus bellicosus*.

---

* *Vide anteà*, pp. 113–117.

The three species of the genus *Hirundinea* will therefore stand as follows:—

a. Uropygio dorsoque concoloribus, fusco-nigricantibus.

1. Hirundinea ferruginea. (Plate V. fig. 2.)

Ferruginous-bellied Tody, Lath. Syn. ii. p. 662.

Todus ferrugineus, Gm. S. N. i. p. 446; Lath. Ind. Orn. i. p. 267.

Hirundinea ferruginea, Pelz. Orn. Bras. p. 113.

H. fusca: capitis lateribus albicante mixtis: alis intùs et speculo alari cum corpore subtùs ferrugineis: caudâ unicolori fuscâ: long. tota 6·5, alæ 4·4, caudæ 3 poll. Angl.

Hab. Cayenne (*Latham*); Rio Içanna (*Natt.*).

Mus. Vindob.; P. L. S.

The Vienna Museum possesses a specimen of this bird, acquired at the sale of the Leverian Museum, which is in all probability the original of Latham's description. Herr von Pelzeln tells us that it agrees completely with Natterer's skins, which were obtained on the Rio Içanna, one of the upper branches of the Rio Negro. One of the latter has been kindly surrendered to me in exchange by the authorities of the Vienna Museum.

2. Hirundinea bellicosa. (Plate V. fig. 1.)

Suiriri roxo obscuro, Azara, Apunt. ii. p. 129, No. 189.

Tyrannus bellicosus, Vieill. Nouv. Dict. xxxv. p. 74; Enc. Méth. p. 846.

Hirundinea bellicosa, D'Orb. Voy. Ois. p. 314; Hartl. Ind. Azar. p. 12.

Myiarchus ferrugineus, Cab. in Tsch. Faun. Per. *Aves,* p. 154.

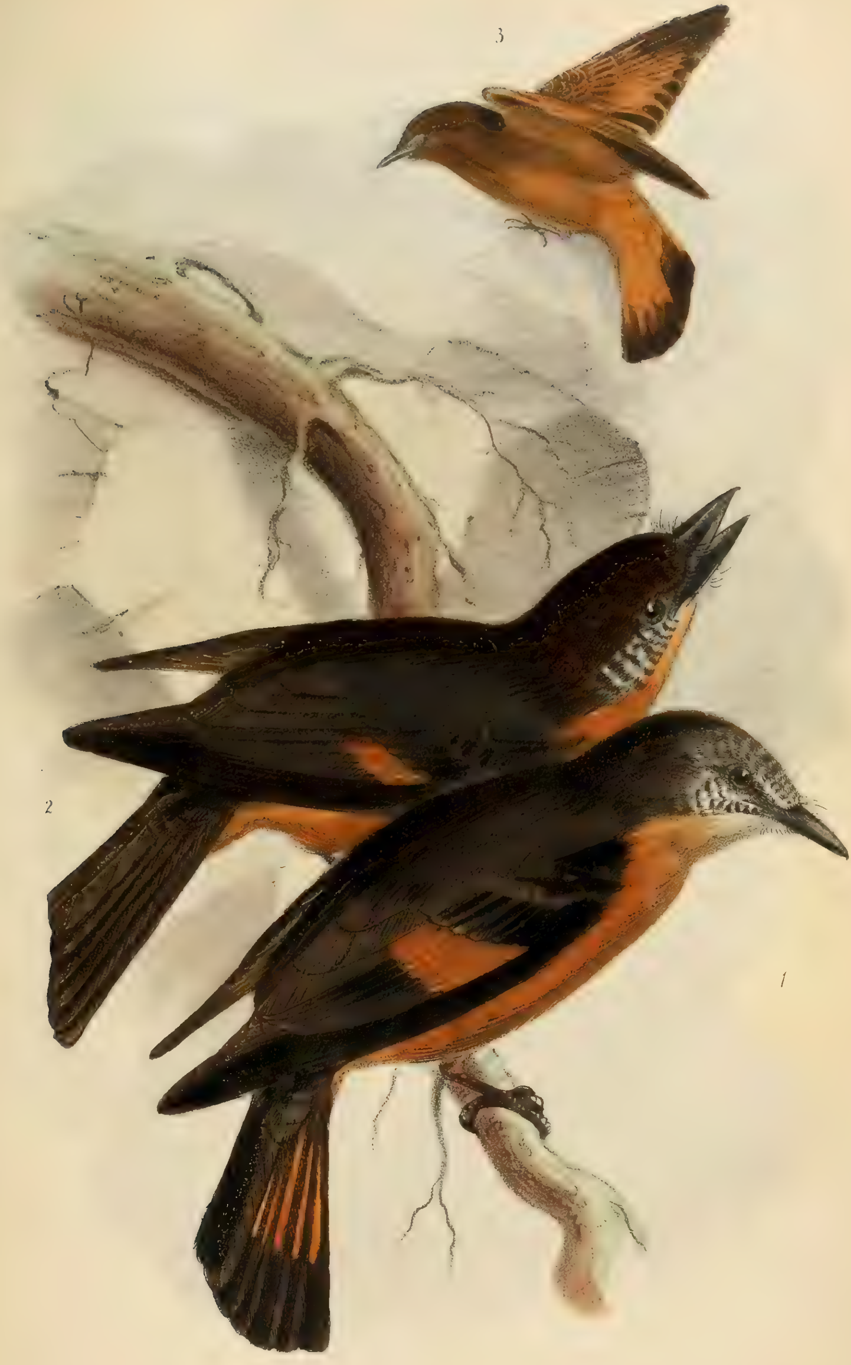
Hirundinea ferruginea, Sclater, P. Z. S. 1855, p. 150.

H. fusca: capitis lateribus albicante mixtis: alis intùs et speculo alari cum corpore subtùs ferrugineis: caudâ fuscâ, rectricum pogoniis internis a basi usque ad partem tertiam apicalem ferrugineis: long. tota 8, alæ 4·5, caudæ 4·2.

Hab. Paraguay, in summer (*Azara*); Bolivia, eastern slope *D'Orb*); Eastern Peru (*Tsch. et Rivero*); Bogota (*Mus. Brit.*).

Mus. Hafn.; Brit.

Azara's description, as already stated, seems to apply best to this species and not to *H. rupestris*; but D'Orbigny's agrees more nearly with the Brazilian bird. On the whole, however, I am



Keulemans lith.

M & N Hanhart imp.

1 HIRUNDINEA BELLICOSA 2 H FERRUGINEA 3 H RUPESTRIS

inclined to retain the name *bellicosa* for this form, until I have had the opportunity of comparing Paraguayan and Bolivian specimens.

The Bogota skin in the British Museum agrees with Prof. Reinhardt's Peruvian bird.

Azara tells us that this bird makes its appearance in Paraguay in the spring, at the same time as *Tyrannus melancholicus*, to which it presents much resemblance in physiognomy and habits. Sometimes, he says, it may be seen perched upon the roofs and towers, and at other times crying about the porticos of the churches and towers like a Swallow.

D'Orbigny says that he met with *H. bellicosa* on the eastern slope of the Bolivian Andes, in Cochabamba, Chuquisaca, and Challuani, and again in the province of Chiquitos, at the Mission of Santiago; so that it inhabits the warm districts of his first and second regions of elevation. It is seen in the villages, where it is as familiar as a domestic bird, remaining always in the courts, in the streets, on the roofs, and perching upon the balustrades of the corridors. Here it seeks its food, which consists of spiders and other insects. It appropriates the nests of the Oven-birds (*Furnarius*) or of the Swallows, after having driven out the proprietors, and appears to resort to them the whole year for the purpose of roosting. It is of a quarrelsome disposition, like other *Tyrannidæ*, and is constantly battling with the Swallows and Oven-birds which frequent the same kind of places. Its flight is horizontal, like that of the Swallows, which it resembles in all its habits.

Tschudi tells us that this species is found in the coast-region of Peru as well as in the eastern wood-region; but I should be rather inclined to suppose that there is some error here, as I have never seen this bird in collections from Western Peru.

As will be seen from the diagnoses, the present bird is much more nearly like *H. ferruginea* than *H. rupestris*, but is readily distinguishable from the former species by the ferruginous red of the tail-feathers. This colour occupies the whole of the inner webs of the rectrices, from their bases to within about an inch of their extremities, except in the case of the middle pair, in which it only occupies the basal third.

b. Uropygio ferrugineo.

3. Hirundinea rupestris. (Plate V. fig. 3.)

Muscicapa rupestris, Max. Reise in Bras. i. p. 345 (1820).

Platyrhynchus hirundinaceus, Spix, Av. Bras. ii. p. 11, t. 13. f. 1 (1825).

Platyrhynchus rupestris, Max. Beitr. iii. p. 977.

Muscivora ferruginea, Burm. Syst. Ueb. ii. p. 505.

Hirundinea rupestris, Pelz. Orn. Bras. p. 113.

"*Tyrannus pyrrhophæus,* Vieill.," Pelz. *l. c.*

H. fusca: uropygio, alis intus, speculo alari magno et tectricum secundariorumque marginibus cum toto corpore subtùs ferrugineis; caudâ ferrugineâ, tertiâ parte apicali nigricanti-fuscâ: long. tot. 6·5, alæ 3·9, caudæ 2·6.

Hab. Campos of South-eastern Brazil (*Max. et Burmeister*); S. Paulo and Rio (*Natterer*).

Burmeister tells us that this bird is not found in the wood-region, but only in the Campos of Inner Brazil. He saw it continually when resident at Lagoa Santa, in the province of Minas.

Prince Maximilian first obtained it upon the Upper Rio Belmonte, afterwards in Espirito Santo and Ilheos, two districts on the west coast. He tells us that it has the peculiarity of frequenting rocks and walls, and is often seen sitting upon the roofs of the dwellings, and, where there are no rocks or buildings, upon an isolated branch. On the Upper Rio Belmonte, where there are many rocks bordering the sides of the stream, it appeared to be common, and was constantly seen perched on the look-out for insects. The Portuguese call this bird *Casaca de couro* or *Gibão de couro* (Leatherjacket).

Natterer obtained seventeen examples of this species at Ypanena, Ytarare, and other places in the provinces of S. Paulo and Rio. One was shot from the roof of a water-mill, and was stated by the natives to frequent commonly such places and the adjoining dams, and to breed in holes.

XVII.—*On some of the Birds of Prey of Central Bulgaria.*

By C. Farman, C.E.

[Continued from 'The Ibis' for 1868, p. 414.]

Aquila chrysaetus (Linn.). Golden Eagle.

In comparison with some of the Eagles, this monarch of the airy realms is a scarce bird; I have observed some few individuals in various parts—one near the head of the lower Devna lake, one in the Pravidy valley, and several others in the hill-country to the westward and northward of Shumla.

Aquila heliaca (Sav.). Imperial Eagle.

Of all the Eagles to be met with in this country, this is by far the most common, and it breeds in great numbers in all parts of Central Bulgaria.

Nidification commences at the end of March or beginning of April, the 8th of April being the earliest date at which I have found the eggs (some thirty of which I have taken). I have, however, taken fresh eggs of this bird as late as the first week in May. Its favourite place for building its eyry is on an isolated tree, or where the trees are scattered about at some distance from one another, or a clump of two or three, at the most, standing alone in the open country, but where there is little or no cultivation.

The nest is little more than a large flat platform of coarse sticks, about 3 feet 6 inches in diameter, and piled up to the height of 18 inches or 2 feet, but in some old nests much higher. The interior is slightly concave, and lined with a few smaller twigs and a little dry grass, wool, pieces of old rag, or any other small rubbish that comes within their ken; in most instances, however, the lining is very scanty.

The number of eggs in a nest is generally two, sometimes three, never more, and not unfrequently only one.

The Imperial Eagle, always a shy bird and difficult to approach, is even more so during the breeding-season; the male bird is always on the watch, either flying in graceful circles at some height above and about the nest, or seated on some neighbouring tree, whence, on the slightest appearance of danger, he comes swooping down towards his eyry, uttering a hoarse croaking noise, as a warning to the female, who instantly leaves the nest and joins her partner in his circling evolutions high up above their eyry.

Owing to their great sagacity, I found it extremely difficult to approach within shot of them; the way in which I ultimately succeeded was by riding up to them on horseback. When I discovered a nest I rode straight up to it at full gallop, and as the bird left its nest I pulled up short and shot it; in this way I succeeded in securing many good specimens, and in one instance I was fortunate enough to secure both birds and their nest of two eggs.

During the breeding-season, if at no other time, the male birds are extremely pugnacious; and many a desperate encounter between them have I witnessed. On one occasion, when riding home to Shitangick from the works, my attention was drawn to a pair of these Eagles by their loud croaking and hoarse shrieks, which they were both uttering with as much force as their lungs would permit; and I then witnessed one of the most exciting and desperate duels that ever took place between two birds. The encounter took place at from two to three hundred feet above the ground, and lasted a good twenty minutes. They began the engagement by flying round each other at some little distance, and every now and then one of them would make a dash in at the other, which avoided it in the most dexterous manner, and in his turn became the aggressor; this, however, only appeared to be their method of "squaring-up" to each other; for they now went at it in good earnest. After separating from each other for some distance, one of them suddenly turned, and with full force dashed in at his opponent, who also turned to receive the attack, and uttering a hoarse croak they closed with each other. The *mêlée* which now ensued, in which, beak, claws, and wings were equally active, and of which little could be distinguished but a mass of perturbed feathers rolling in the air, is far beyond my powers of description. At last they clutched each other with such a firm grasp that, neither having its wings at liberty, they both came tumbling down in each other's embrace for a distance of a hundred feet or more, when they released their hold and separated for a while; and thus ended the first round. The second round began in a similar manner to the first; every now and then one of the birds would make a feint at the other; they now changed their tactics, and by sailing in short spirals each endeavoured to get above his adversary: in this way they rose to a considerable height, till at last one bird having got well above the other, came down upon him with a terrific swoop; the lower bird, nothing daunted, instantly turned right on its back and in a most dexterous manner received his enemy on his outstretched talons; another *mêlée* then ensued similar to the first, ending in the same way by their tumbling down a couple of hundred feet or so in each other's embrace and separating as before. Thus the battle raged for nearly half an hour, when one of the birds having got far up above the other, made a fell swoop down upon his gallant enemy, striking him with great force at a height of about three hundred feet from the ground. The lower bird received him manfully, and fixing his talons well into him, they both came down to the ground with a heavy thud not ten yards from me. I jumped from my horse with the intention of securing these noble gladiators; but when almost within my grasp, they released their hold and made off in different directions. That their fight had been a desperate one, the blood on the spot where they fell bore ample testimony.

AQUILA NÆVIA (Gmel.). Spotted Eagle.

Not uncommon in any part of the country, but most numerous in the neighbourhood of the Devna lakes and in the Pravidy valley. In its habits it strongly resembles the Buzzards, generally flying low in pursuit of its prey, which, if belonging to the feathered tribes, it strikes in the air. It seldom soars to any great height, although on rare occasions I have seen it rise to a height from which it was hardly distinguishable. They generally rest on trees, preferring a dead or sear bough, whence they watch their prey, and, when the opportune moment arrives, dash off in pursuit, again returning to the same resting-place if unsuccessful. When thus engaged they will permit a very near approach; and thus they are very easily shot.

In the spring of 1865 I observed a nest of this bird placed on an ash-tree overhanging the stream at the southern entrance of the Pravidy valley: it was more neatly put together than most of the Eagles' nests, and was warmly and softly lined with the blossoms of the ash-tree; it contained one young bird just hatched, and two eggs already cracked by the young birds within. On the edge of the nest were the two fore legs of a leveret. Directly I descended from the tree, one of the parent birds returned to the nest, and I observed her mate sitting on an old dead tree a couple of hundred yards off; this bird was intently watching a flock of some twenty or thirty Magpies which were busily engaged picking the bones of an old carcass that the Vultures had demolished. As I rode past, the Magpies took to flight, and the Eagle, leaving his resting-place, instantly started off in pursuit of them; on coming up to them he singled one out, and, after following it through a few intricate but futile attempts to escape, rose slightly above his prey and with one stroke felled it to the ground, and, following it as it fell, reached the ground almost at the same moment.

HALIAETUS ALBICILLA (Linn.). White-tailed Eagle.

Common on the coast of the Black Sea, as also on the shores of the Devna lakes, but most numerous during the early spring.

HALIAETUS LEUCORYPHA? (Pallas). Pallas's Sea-Eagle.

At various times during my two years' residence in this country I have noticed an Eagle that I take to be the above-named; but, unfortunately, I was never able to preserve a specimen by which to identify it clearly; nevertheless I had several opportunities of scrutinizing it pretty closely. It differed altogether from any other Eagle that frequents this country, the most obvious distinction being a white head and neck, and a white tail with a dark edging. In the spring of 1865 a pair of these birds built their nests on a gigantic elm-tree growing on the banks of a stream near Uvola, about thirty miles from the sea-coast, where the Pravidy valley opens out into a broad plain, which at this time of the year (April) is covered with water and presents the appearance of a small lake. For two successive days I lay in wait for these birds, and tried in every conceivable way to get within shot of them, but without success; so ultimately, not being able to remain longer in that part of the country, I had to content myself with robbing the nest of the young bird it contained, and leaving the parents at large. In the nest, besides the young bird, I found a dainty dish in the shape of the two fore legs of a lamb.

PANDION HALIAETUS (Linn.). Osprey.

The Osprey is here much scarcer than I had expected to find it; indeed it is very rarely to be met with, but occasionally it may be seen on the coast and on the banks of the Devna lakes.

In May, 1865, I observed an Osprey fishing on the stream that connects the two lakes just mentioned, near Geberjeng. It was flying at a height of about a hundred feet, and every now and then it hovered in the air somewhat after the manner of the Kestrels; suddenly down it came, with a whizzing noise, like a thunderbolt, splash into the stream, making a perfect cloud of spray, which for the moment completely hid it from my view; it rose almost immediately with a large fish in its talons, and away it went to the neighbouring rocks, there to enjoy its prey in undisturbed solitude.

BUTEO VULGARIS, Bechst. Common Buzzard.

Not uncommon anywhere between Varna and Rustchuk. In May 1865 my friend Mr. M^cVean shot a fine male specimen near Karaharge; and other specimens were shot by various other gentlemen then engaged in constructing the Varna Railway.

ARCHIBUTEO LAGOPUS (Linn.). Rough-legged Buzzard*.

Equally common with the preceding species, but most plentiful in the forest-country about Ishicklar, and in the woodlands lying on the right bank of the upper Devna lake.

PERNIS APIVORUS (Linn.). Honey-Buzzard.

I was so unfortunate as never to see a single specimen of this species in its wild state; but that it is a habitant of this country is clearly proved by Mr. M^cVean having taken a nest of three young birds near Kialdery, at the same time shooting the old male, which he preserved and I afterwards examined.

* [Is not this more likely to have been *Aquila pennata*?—ED.]

Milvus ictinus (Savign.). Kite.

A common bird all over the country, apparently more numerous during the breeding-season; I shot several at various times.

Milvus migrans (Bodd.). Black Kite.

Not uncommon about the Devna lakes and in the Pravidy valley; but I seldom observed it much higher up the country. One specimen, a fine male, I shot as high up as Kialdery; but it is rarely that they are seen north of the Pravidy valley.

Athene noctua (Retz.). Little Owl.

Common throughout Central Bulgaria; it breeds in the ravines between Kushetchen and Kialdery, and doubtless in many other similar situations.

Bubo maximus, Fleming. Eagle-Owl.

More or less plentiful throughout the country, but particularly so in the Pravidy valley. Nidification begins somewhat early, namely, about the middle of March. On the 12th of April, 1866, I took a nest containing two eggs and one young bird; I had previously shot the female, and shortly afterwards procured the male also; one of these eggs was so far incubated that I could distinctly hear the young bird chirping within its shelly prison; I placed this egg under a sitting Goose, and in three days it was duly hatched; I then carefully attended to the young bird, and fed it on raw meat chopped very fine. It went on well for about a week, when I was called away on business for a day or two, and had to leave it in charge of one of my servants. I gave him strict injunctions as to its treatment; but on my return I found my young Owl dead, my orders having been neglected.

XVIII.—*Notes on some new South-African* Sylviidæ.

By H. B. Tristram, M.A., F.R.S., &c.

(Plate VI.)

Having had several small parcels of South-African specimens of this very interesting family lately intrusted to me for discrimination by Messrs. Layard, Gurney, Verreaux, Sharpe, and others, I have been somewhat appalled at the very unsatisfactory state of our knowledge of the group *Saxicolinæ*. It is necessary to observe that in no class of birds is a large series of specimens so absolutely indispensable for the accurate discrimination of species. Many of the characteristics which have been relied upon by closet naturalists as specific distinctions will be found to be merely variations of sex or age—and this in characteristics which, in allied genera, are infallibly distinctive. For instance, in some dark-coloured species, the coloration of the head may be black, grey, or white—and this, so far as we can discover, simply from age, not sexual, and occurring in breeding birds in the same locality. This fact was brought prominently to my notice in the case of the North-African groups, both in the Sahara and in Palestine. I find it holds equally in the analogous species both from Scinde and from South Africa. I may mention, as cases in point, the variations in *Saxicola eurymelæna* and *S. monticola*. In the same way a comparison of a large series will show us that the proportion of white and black on the rectrices is very variable in individuals of the same species in some of the desert groups.

My examination of the series sent by Mr. Layard leads me at once to reject the specific value of *Saxicola castor*, Hartl. (P. Z. S. 1865, p. 747), which appears to me to be only one of the variations of *S. cinerea*, Vieillot, a species that has as many different phases of plumage as *S. monticola*, the young birds being rusty-brown, then blackish-brown, and finally assuming the uniformly cinereous plumage.

There are, however, in all the Chats some invariable points of distinction; among these I attach the chief value to the coloration of the rump, and to its extent, which appears to be invariable at all ages, presenting no sexual variations in the subgenus *Dromolæa*, generally differing in the sexes of the desert group of the *Saxicolinæ*.

Thus, in *Saxicola monticola*, we have at all ages the white epaulettes in the male, and in both sexes the narrow white rump; but, according to age, we find specimens otherwise wholly cinereous excepting their remiges and rectrices, others black, with an ashy head, others wholly black, some with the belly ashen, some black, and some with more or less white.

Among the species before me there are four which, so far as I am aware, are new and undescribed. The first of these (of which a figure is given) I propose to name after its discoverer, Mr. Arnott, and subjoin its description.

SAXICOLA ARNOTTI, sp. nov. (Plate VI.)

♂ Corpus totum superne et subtus nigerrimum; pileo plumis quibusdam albis intermixtis; fronte et linea superciliari alba; remigibus atris nec nigris; scapularibus læte albis; plumis longioribus apice fusco-nigris; cauda tota nigra; remige primo 1·5 poll., secundo 3 poll., octavum æquante, tertio ad septimum æqualibus: rostro, tarsis et pedibus nigris.

Long. tot. 7·2, rostr. a rictu ·8, al. 3·9, caud. 3, tars. 1·1.

Hab. Adam Kok's New Land (*fide* E. L. Layard).

SAXICOLA ATMORII, sp. nov.

Corpus totum superne et subtus fuliginoso-nigrum; uropygio tantum imo albo; remigum parte interiore fusco-nigra; rectricibus mediis nigris, lateralibus albis nigro terminatis, et extimæ rectricis externo pogonio ad unum pollicem nigro limbato; rostro, tarsis pedibusque nigris; remige primo brevissimo, secundo septimum superante, quarto longissimo.

Long. tot. 6·9, alæ a carp. 4·1, caud. 2·75, rostr. a rict. ·85, tarsi 1·05.

Hab. Damara Land (C. J. Andersson).

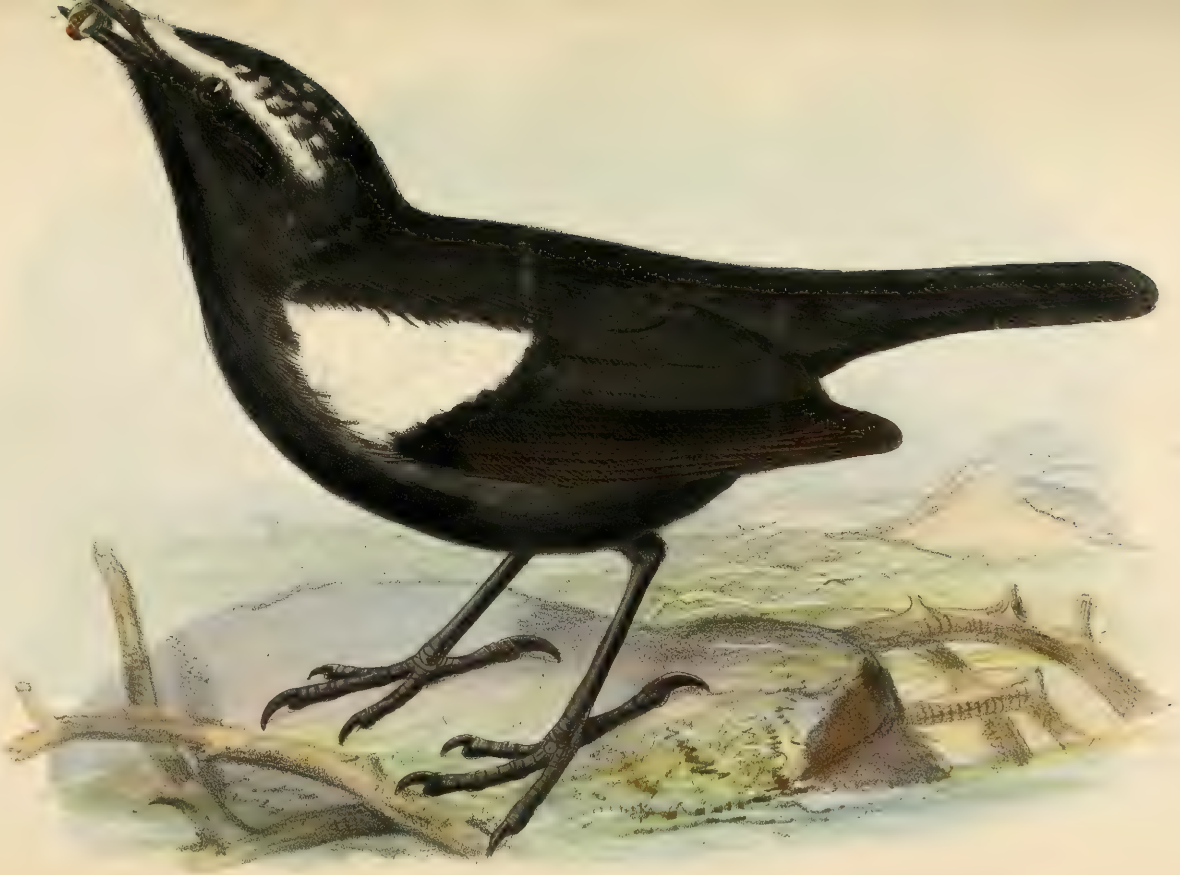
This bird appears to be the South-African representative of the Abyssinian *Saxicola lugubris*, Rüpp., and differs from it in its much greater size, in having the narrow white instead of the broader chestnut rump of that bird, and in the much less extent of the black bar at the extremity of the tail. I name this species after Mr. W. Atmore, a diligent observer of birds, as Mr. Layard's pages testify.

SAXICOLA MODESTA sp. nov.*

Caput et corpus totum superne pallide cinereum, subtus totum

---

* It is possible that this species may be identical with the *Erithacus schlegeli* of Wahlberg (K. Sv. Vet. Akad. Förhandl. 1855, p. 213), though the bird is certainly not an *Erithacus*, but one of the *Saxicolæ* closely approaching *Pratincola*.



Keulemans lith.

M & N Hanhart imp.

SAXICOLA ARNOTTI

cinereo-album; remigibus fuscis, primo brevissimo, secundo sextum æquante, et ad pogonium internum subito attenuato; uropygio et crisso albis; rectricibus nigris, tribus externis albo colore pogonio externo et apice anguste limbatis; rostro, tarsis et pedibus nigris.

Long. tot. 6·2 ad 6·35, alæ a carp. 3·6, caud. 2·7, rostr. a rict. 0·7, tarsi 1·15.

Hab. Damara Land (C. J. Andersson).

This graceful bird in its form and coloration reminds us of the subgenus *Cercomela*, of which Palestine and Cashmere afford us the only known examples. I cannot agree with Dr. Jerdon that *Saxicola infuscata* betrays much affinity to that group, excepting in coloration. The white rump of *S. modesta*, however, must always mark it as belonging to *Saxicola* rather than to *Ruticilla*. Its nearest affinity seems to be with *S. pollux*, Hartl., which, though almost as slender in form, differs in its much larger size and very much darker coloration. The attenuation of the second primary at its tip will be sufficient to identify this species beyond any doubt. Superficially it somewhat resembles a specimen of *S. albicans*, Wahlb., from the same region, which, however, is by no means so slender a bird, wants the apical attenuation of the wing-feather, and has its rectrices for the greater part of their length white instead of black. I should add that I have not been able to meet with a specimen of *S. baroica*, Smith*; but it does not appear to possess the peculiarities of this species, of which I have *five* specimens before me.

DRYMŒCA ORTLEPPI, sp. nov.

D. supra pallide griseo-brunnea, flavo-brunneo lavata; gula, gutture et linea superciliari albis; pectore et abdomine læte flavis, remigibus brunneis castaneo marginatis; rostro colore corneo; tarsis pedibusque flavis.

Long. tot. 6, rostri a rictu ·5, alæ a carpo 2·1, caudæ 3·25, tarsi ·75 poll.

Hab. Colesberg, Cape Colony (*fide* E. L. Layard).

I have named this species after its discoverer, Mr. Ortlepp, a zealous cooperator with Mr. Layard. It bears the same relation to *D. pallida,* Smith (Ill. Zool. S. Afr. pl. 72. fig. 2) that *Phyllopneuste trochilus* does to *P. bonellii*—an analogy which seems to be found in the whole of the Sylviad group, there being usually a brown and a representative yellow species. The tarsi are *one-third* shorter than in *D. pallida.*

---

* [This species does not seem to have been described. It was mentioned by Sir Andrew Smith (Ill. Zool. S. Afr., *Aves*, lp. to pl. 28), and a representation of it promised, which, however, never appeared.—ED.]

XIX.—*Remarks on* Dr. Stoliczka's "*Ornithological Observations in the Sutlej Valley.*" By Arthur Viscount Walden, P.Z.S. &c.

In the 'Journal of the Asiatic Society of Bengal' for 1868, a paper has been published, entitled "Ornithological Observations in the Sutlej Valley, N.W. Himalayas," which deserves the attention and the study of the philosophical ornithologist. The author, Dr. Stoliczka, is a gentleman whose name is well known as that of a distinguished palæontologist and geologist. And this, I believe, his first ornithological contribution possesses merits more than sufficient to entitle him to a high place among scientific ornithologists. The accession to our ranks of of a recruit already so eminent in other branches of the natural sciences will be hailed with pleasure, and, by those who aim at higher objects than the mere priority of naming their species, with gratitude. The addition of another labourer in the but partially tilled field of Asiatic zoology will be welcome to the few, though happily increasing, workers in that much-neglected region of the earth's surface; while a perusal of Dr. Stoliczka's paper will show that it is possible for a naturalist primarily and chiefly occupied with a widely differing branch of research, to combine a record of practical zoological observations made in the field with an almost rigid accuracy of nomenclature.

An account of the collections made by Dr. Stoliczka, of which a translation appeared in this Journal for July last*, will already have enabled its readers to estimate his activity in the good cause. The collection there noticed was a general one of birds obtained in Tibet as well as in the Himalayas. The list I now propose noticing is confined to the species which inhabit a limited region of those mountains, the Sutlej Valley, and is therefore more local in its character. The species were collected or observed during the summer months, from May to October; while the authority for the winter residence of many of them rests chiefly on the evidence of the specimens obtained by *shikarees* employed to collect during the winter.

---

* Ibis, 1868, pp. 302–321.

One hundred and thirty-nine genera, belonging to the *Insessores,* are enumerated as being represented in the Sutlej Valley. Of the remaining eighty-nine genera, after deducting fifty which are common to the temperate regions of the Old World and to the plains of Continental India (such as *Hirundo, Coracias, Merops, Picus, Corvus, Sitta, Lanius,* and so forth), forty-one of the genera (like *Palæornis, Pyctorhis, Tchitrea, Megalæma, Arachnechthra, Copsychus, Thamnobia, Dendrocitta, Zosterops,* and others) are strictly characteristic of the plains of India with their lower elevations. Seventeen genera are common to the mountains and elevated tablelands of the Himalayas, to Europe, to Central, and probably Northern, Asia—*Certhia, Cinclus,* and *Tichodroma,* for instance; seven are Himalayan genera, including, in all likelihood, Central-Asiatic species, *Hemichelidon, Propasser,* and a few more; and twenty-four are genera peculiar, within the Indian region, to the slopes, valleys, and jungles of the Himalaya. In the Central and Eastern Himalayan regions special genera, containing numerous species, abound; while in the north-western Himalayas these characteristic genera and specific forms rapidly diminish, and probably cease altogether before the eastern bank of the Indus is reached.

In his instructive preliminary sketch of the physical construction of the Sutlej Valley, Dr. Stoliczka supplies us with a ready explanation of this apparently anomalous commingling of the avi-fauna of such different zoological provinces. The Sutlej, without making a long eastern or western circuit, like the Bramapootra and the Indus, breaks, in an almost direct line towards the plains, through the intervening ranges of gigantic mountains, cutting its way, or bursting a passage, through the solid rock, and jumping, in a course of 180, or in a straight line of 110 miles, from an altitude of 13,000 to that of 1000 feet. Its valley and those of its affluents thus provide an easy means of access from the plains to the elevated tablelands north of the Himalayas, and become a direct highway for birds migrating from the north or the south of those mountains : and although, in historical times at least, neither the nations north nor south of the Himalayan barrier have ever availed themselves of these natural advantages, either for warlike or commercial purposes, Dr. Stoliczka almost implies that the most feasible route to or from Central Asia is to be met with by following the course of the Sutlej. The country of the plains extends to within the mouth of the valley; and there are still to be found the animals indigenous to the low country. Higher up, but yet in the lower portions of the valley, to an elevation of from 4000 to 5000 feet, many low-country species of birds find those conditions of food and climate which become suspended in the plains during the great heat and drought of summer, and the means of forming their nests and rearing their young. And there also a few Central-Himalayan hill-forms occur, but diminished in variety and number of species, having almost reached their western geographical limit through the action and effects of an increased latitude; while, as the valley continues rising to its greatest elevation, the species and genera of the Central-Asiatic fauna begin to appear, increasing in number until, when the summit is gained, they almost exclusively predominate.

In short, this valley has its beginning in the Tibetan zoological province, and its termination in the Indian; is a highway for birds which pass the summer in central or northern Asia and the winter in India; is alternately a refuge for those Tibetan birds which cannot endure the rigour of a Tibetan winter, and for those Indian species which are unable to support the great heats of summer; and is the permanent habitation of the declining Eastern-Himalayan hill-forms, and of those species which are characteristic of a temperate yet unelevated region in the higher latitudes of the Old World, like *Loxia, Pyrrhula, Carduelis,* and *Garrulus,* and help to connect the avifauna of Europe with that of Hindustan. The meeting together in the Catalogue of the Ornis of a single valley of such zoo-geographical extremes as *Lerwa nivicola,* and *Temenuchus pagodarum, Carduelis caniceps* and *Arachnothera magna, Monti-*

fringilla adamsi and *Xantholæma indica,* is thus accounted for.

Of the two hundred and eighty species collected or observed by Dr. Stoliczka, there are described as new, *Linota pygmæa, Fringillauda sordida,* and *Munia similaris.* The first two appear to have been hitherto undescribed; but the third is undoubtedly *Munia undulata* (Lath.)* in first plumage. Three species, belonging to the genera *Phylloscopus, Allotrius,* and *Hydrobata* are noted as undetermined. From description alone, it is difficult to identify some of the small Warblers; and the species described may possibly be new. It is said to resemble *Phylloscopus rama* (Sykes), but to be decidedly smaller. So many Asiatic species have already been described closely resembling Col. Sykes's bird that Dr. Stoliczka has exercised a laudable caution in not adding another. The *Allotrius* our author considers to be the *Pteruthius xanthochlorus* of Hodgson (J. A. S. B. 1847, p. 448), hitherto regarded as the female of *P. melanotis,* Hodgs. (*l. c.*), which, again, is erroneously identified by Dr. Jerdon (B. Ind. ii. p. 246) with *Allotrius œnobarbus,* Temm., of Java. The female of this conjectured female of another species is described for the first time by Dr. Stoliczka; and if we are to accept his conclusions, *Pteruthius xanthochlorus,* Hodgs., must resume its rank as a second Indian species of *Allotrius.* The plumage, as described, of the doubtful *Hydrobata,* notwithstanding the absence of a perfectly white throat and breast, seems to indicate that of a young *Cinclus asiaticus,* Sw. In one of the earlier stages of plumage of this species, the underside is clothed with smoky-brown feathers, each of which is edged with a dusky-grey fringe. In those of the flanks and upper surface the fringe is fulvous, occasionally mixed with dusky-grey. The secondaries are edged with white, those nearest the body being completely surrounded with a white margin. The primaries and some of the rectrices are slightly tipped with white. The tarsus, feet, and claws in the dried skin are dirty yellow, whereas in the adult bird they are brown. The pale fringing of the body-feathers gives the plumage a scale-like or spotted aspect. In another stage, probably that of an older bird, the edgings of the ventral regions and lower breast only are dusky white, all the rest being fulvous, while the wing-feathers are less boldly margined with white, and the tarsus and feet are darker. In a third stage still more nearly approaching that of the adult garb, the whole of the plumage is coloured as in fully adult birds, save that of the chin and throat, in which the dusky-white fringe occupies nearly the whole of each feather. On the upper breast a few feathers here and there are tipped with dusky white, making it appear spotted; and although the primaries are uniform brown, the secondaries still retain the narrow white margin. The legs are almost as dark as in the adult. Under and above each eye is a white mark; and this is to be found, though less prominently, in birds which are otherwise in completely adult plumage. The bill appears to acquire increased dimensions in this species, even after the plumage has reached its perfect stage. Two birds are introduced as new to the fauna of the Indian region as limited by Dr. Jerdon, *Tetraogallus tibetanus,* Gould, and *Alau-*

---

* The synonymy of this genus is in some confusion. Three original descriptions of a *spotted Munia* were published previously to 1766,—one by Albin, with a coloured plate (1738), from a bird said to have come from China, one by Edwards (1743), with a coloured plate, said to be from the East Indies, where it is called *Cowry bird,* and one by Brisson (1760), from a specimen obtained near Batavia, in Java. Linnæus (S. N. i. p. 302) quotes Edwards first, and then Brisson, omitting Albin. If the first reference is to be taken as having supplied the type, the Indian bird must stand as *M. punctularia* (L.); if the second, the Linnæan title must be applied to the Javan bird, *Fringilla nisoria,* Temm. Jerdon's *White-backed Munia* (B. Ind. iii. p. 356) is clearly not *Loxia striata,* L., founded on Brisson's "Gros-bec de l'Isle de Bourbon" (Orn. iii. p. 243), which has the entire upper surface uniform. If not indigenous to that island, Brisson's type probably came from Java, where a species exists fully answering to his description (*M. leucogastroides,* Moore, Cat. E. I. Co. Mus. ii. p. 510). The Indian bird must stand as *M. leuconota* (Temm. Pl. Col., Livr. 84, May 8, 1830, descr. orig. ex Bengal). The propriety of applying the Linnæan title of *L. malacca,* founded on Brisson's "Gros-bec de Java" (Orn. iii. p. 237), to Jerdon's *Black-headed Munia* (B. Ind. ii. p. 352), depends upon the identity of the Indian with the bird of Java, whence Brisson's type came. Linnæus included two distinct species under this title. *M. kelaarti,* Blyth, from Ceylon, first described by Mr. Blyth, with a doubt, as *M. pectoralis,* Jerd. (J. A. S. B. 1851, p. 178), is, I strongly suspect, the same as *Ploceus fringilloides,* Lafresn. (Mag. de Zool. 1 ser. tab. 48, December 1835), ex Ceylon.

dula pispoletta (Pall.)*. But the following three species, noticed by Dr. Stoliczka, must be added:—*Linota brevirostris*, Gould, admitted, with some doubt, as distinct from *L. montium*, (Gm.), by our author and Herr von Pelzeln (Ibis, 1868, p. 319); *Montifringilla adamsi*, Moore; and *M. hæmatopygia*, Gould. All three visit the valley of the Sutlej during the winter, and, together with *Allotrius xanthochlorus*, increase the list of Indian species by six. *Emberiza stracheyi*, Moore, however, is considered identical with *E. cia*, L.; and thus the Indian list is reduced by one; while *Corvus tibetanus*, Hodgs., is regarded as scarcely separable from *C. corax*, L.; *Fregilus himalayanus*, Gould, as not distinct from the European Chough, and *Regulus himalayensis*, Blyth, upon Herr von Pelzeln's authority, as identical with *R. cristatus*. A hitherto somewhat dubious species, *Petrocincla castaneocollis*, Less. (Rev. Zool. June 1840, p. 160), was rediscovered by Dr. Stoliczka in West Tibet, north of Dras, and is expected by him to be found residing in the Punjab during the winter. He identifies it with *P. saxatilis* (L.). It is remarkable that *Lanius cristatus*, L., is not included in the list of the Sutlej-Valley birds. The only Rufous-tailed Shrike procured is identified as *L. arenarius*, Blyth, and was but once met with east of

---

* Zoog. Rosso-Asiatica, i. p. 526. It was observed by Pallas in southern Russia, and especially in the Caspian desert. He considered it to be the same as the bird named *Alauda spinoletta* by Linnæus (S. N. i. p. 288), from Italy. The Linnæan name Pallas altered to *pispoletta*, because Cetti (Ucc. di Sardegna, p. 159) stated that *pispoletta*, and not *spinoletta*, was the true Florentine name for the Italian bird, adding that the great Swede had never even seen it. *A. spinoletta*, L., is made equal to *Anthus aquaticus*, Bechst., by Bonaparte (Consp. Av. i. p. 247). Eversmann (Add. ad Zoog. Ross-As. p. 16, 1835) refers *Alauda pispoletta*, Pall., also to *Anthus aquaticus*. Bonaparte, on the other hand, regarded it as a distinct species of *Alauda*, and referred *Alaudula raytal* (Buch.-Ham.) to it as a synonym. Dr. Stoliczka notes the differences whereby *A. pispoletta* is distinguished from *A. raytal*; and if the learned doctor's identification is correct, the discovery of Pallas's bird so far to the eastward is interesting. The specific title is unfortunate, founded, as it is, on the Florentine trivial name of a totally distinct species. Ménétriés (Cat. Raison. Caucas. p. 39) mentions that *A. pispoletta* is very common in the desert-plains on the shores of the Caspian during the months of April, May, and June. Later in the year he saw no more of it.

Chini. In the summer it is said to be more common in Tibet. Hodgson's name *Budytes citreoloides* is adopted for the *Yellow-headed Wagtail,* upon the authority, apparently, of Mr. Blyth, as quoted by Dr. Jerdon (B. Ind. iii. p. 873). Wherein Hodgson's species differs from that of Pallas, I have failed to discover. Indian examples agree in every respect with the description given by Pallas (Reise, 1776, iii. App. p. 696, no. 14) of his type specimen, which was obtained on the 26th of April (O. S.) in Siberia, and consequently had not assumed the full breeding-plumage. Pallas remarks that the same species is to be seen in Russia in spring, at the time when birds are migrating northwards. Dr. Stoliczka has omitted to describe the plumage of his specimens and the exact period of the year he met with them. The bird to which Hodgson gave the names of *Budytes calcaratus* and *B. citreoloides* is rarely found, in India, in full black and yellow breeding-plumage; and although some individuals may breed in the southern valleys of the Himalayas, yet, from the scarcity of examples in breeding-livery, we may infer that the greater part migrate in the spring further north. Any how, nothing less than a comparison made between a series of Siberian and Indian birds can determine the question; and even if the Indian bird proves to be distinct from *B. citreola* (Pall.), it will have to bear the title of *calcaratus,* Hodgs. (1836), which has a priority of eight years over that of *citreoloides**, Hodgs. *Parus cinereus,* Vieill., was observed as far north as West Tibet. Consequently, if we are justified in considering Javan, Cingalese, Western-Indian, Nipalese, Central-Indian, and Afghan individuals as belonging to one species, the range of this Titmouse is very extensive. But, judging from a comparison of specimens, the Javan, the Cingalese, and the race inhabiting north-western India are severally distinct. And whether we regard them merely as varieties, or refuse to rank them as separate species, it would be inaccurate to assert that a form identical with *P. cinereus*, from Java, also inhabits Tibet.

---

* Fortunately Pallas's bird escapes having to take the specific title of *sheltobriuschka,* Lepechin (*Iter*, ii. p. 187, tab. 8. f. 1, 1775—a work published one year previously to Pallas's travels), which is given as a synonym by Gmelin, Latham, Blyth, and Horsfield and Moore. Lepechin calls his species *Der Bachstelze mit dem gelben Bauche,* and adds the name above quoted as being that by which this bird is known in Russia. Gmelin (S. N. i. p. 962) latinized the Russian word without adopting it, and hence the origin of the synonym. In the 'Zoographia' Pallas altered his title to *Motacilla citrinella*; and Lesson described the species (Traité, p. 422, 1831) under the title of *M. aureocapilla.* By both these authors the winter plumage alone is described.

With these remarks I will now close this somewhat hasty sketch of the results of Dr. Stoliczka's researches, with a hope that it will not be long before he will find himself able to publish further observations on the ornithology of the Himalaya mountains, and the regions they separate from north-western India.

XX.—*Notices of Recent Ornithological Publications.*

1. English.

Our anticipations with regard to Mr. Sharpe's work*, the first part of which we noticed some six months ago (Ibis, 1868, pp. 472, 473), have been more than realized by the two parts which have since appeared. The author is unsparing of his labour; and the draughtsman, of whose skill our present number will enable the reader to judge, is very successful in his vocation. Each part contains six plates, representing as many species of the group, with accompanying letterpress, wherein is embodied all that seems to be known respecting the birds. One of the species which requires especial notice is *Cittura sanghirensis*, first described by the author in the Zoological Proceedings for 1868 (p. 271), and no doubt sufficiently distinct from *C. cyanotis*, a very rare bird in collections, and apparently limited in its range to the northern part of the island of Celebes, while the allied form seems to be confined to the much smaller and more distant island of Sanghir, whence its name. We must congratulate Mr. Sharpe on having at last been able to settle the doubt which has long existed as to what the *Alcedo tridactyla* of Pallas really was—a happy result, obtained, however, only at the expense of a "cancel." Though both *Ceyx tridactyla* and *C. rufidorsa* seem to have been well known to the older authors, they were wont to regard the latter either as the female or as a variety of the former. *Ceryle cabanisi* is recognized by Mr. Sharpe as distinct from *C. americana*; and, according to him, the former, which ranges from Texas southward to Ecuador and Peru, has been spoken of under the name of the latter several times in this Journal*.

---

* A Monograph of the *Alcedinidæ* or Kingfishers, by R. B. Sharpe. The plates drawn and lithographed by Mr. J. G. Keulemans. Part ii. October 1st, 1868; Part iii. January 1st, 1869. London: roy. 8vo.

A long-expected work at last rejoices our eyes, and there are but few of our readers who will not, in Mr. Wallace's company, be glad

— "to wander far away,
On from island unto island at the gateways of the day."

We are sure that 'The Malay Archipelago'† will obtain such close attention at the hands of all ornithologists that we think there is no good reason why we should give any details of its contents. Even those who agree least with the co-discoverer of the theory of "Natural Selection" will admit, after reading his volumes, the unquestionable right of Mr. Wallace to be regarded as a naturalist-traveller of the very first class, and give him credit also for the desire of being accounted a naturalist-philosopher. The Darwinian school (to which belongs, we believe, the majority of our readers), will of course readily accord him a still higher position; and indeed it will be, in our opinion, difficult to refuse the author of this work any rank among naturalists to which he may lay claim. He set out from England with no theory—his theory was forced upon him as the only mode of explaining countless facts which he himself observed; and these facts are now related by him in the simplest and most unaffected manner. There is not a chapter in either of these volumes which will not give rise to numerous reflections of the most interesting character; and we heartily congratulate Mr. Wallace on the accomplishment of his task, and earnestly hope he may

* Ibis, 1859, p. 131; 1860, p. 117; 1865, p. 472, and 1866, p. 263.

† The Malay Archipelago: the land of the Orang-utan and the Bird of Paradise. A Narrative of Travel with Studies of Man and Nature. By Alfred Russel Wallace. London: 1869. 2 vols. small 8vo.

long live to enjoy his well-earned fame. We wish we could say a good word for the illustrations of his work; they serve to show, as we have for some time suspected, that wood-cutting is rapidly becoming one of the lost arts.

Since some space was devoted in our last year's volume (Ibis, 1868, pp. 85–96) to an abstract of Professor Huxley's proposed Classification of Birds, it seems expedient to say a few words on another paper of his contained in the Zoological 'Proceedings' (P. Z. S. 1868, pp. 294–319), wherein are contained the results of further researches made by him on the same subject. Of these results we can, however, only speak as briefly as possible. Our readers will recollect that in a letter which Professor Huxley did us the honour of addressing to this Journal (Ibis, 1868, pp. 357–362), he made use of three new names of Groups—*Turnicimorphæ, Pteroclomorphæ* and *Heteromorphæ*—but without defining their limits or giving his reason for establishing their independence. Both these very necessary steps are taken in the paper we are now noticing; and without going into the matter with respect to the first two further than to say that they include respectively the *Turnicidæ* and *Pteroclidæ,* we have to mention that the third, *Heteromorphæ,* is erected for the special benefit of that very remarkable and hitherto puzzling bird *Opisthocomus cristatus,* a course which appears to us in every way justifiable. The principal features of the osteology of this form are most carefully described, and illustrated by numerous and characteristic woodcuts. With regard to its sternal apparatus *Opisthocomus* stands, so far as is known, quite by itself; the *carina* is scarcely developed anteriorly; and the *furcula* is anchylosed with the *manubrium.* Many more important differences are observable in other parts of the bird's structure; and we cannot but heartily congratulate ornithologists on the light thus thrown upon its place in nature, and the learned author of this paper on his luminous exposition of the subject. The remainder of the paper is also in the highest degree interesting: though, professedly considering only the geographical distribution of the *Alectoromorphæ,* Professor Huxley in a few pages adduces and collates facts of the highest value in relation to the whole question of zoogeography. In a general way he agrees with the conclusions of Mr. Sclater, who, as is now well known, divided the earth's surface into six great zoological regions, though Professor Huxley thinks "it would be convenient to recognize a circumpolar province as distinct from the Nearctic and Palæarctic regions;" but on one point our two friends are diametrically opposed. Mr. Sclater's primary division was that of a New World and an Old; Professor Huxley sees that the great frontier is latitudinal, not longitudinal, and declares for a North World and a South—ARCTOGÆA and NOTOGÆA—illustrating the distribution of the two subgroups (*Alectoropodes* and *Peristeropodes*), into which he divides the Alectoromorphs by many like examples from other classes of vertebrates. There can be no doubt, we think, of the close resemblance in many respects between the faunas of the Australian and Neotropical Regions; and in his estimate of this resemblance Professor Huxley seems to be right. We must not omit to notice that in defining the boundary between the Indian and Australian Regions, which he most happily suggests may be called after its discoverer "Wallace's line"*, Professor Huxley draws it so as to include both the Nicobar and Philippine Islands—a proposal concerning the propriety of which we should like to hear more.

2. FRENCH.

The grand work of Professor Alphonse Milne-Edwards† continues to make good progress; and since we last noticed it a twelvemonth ago (Ibis, 1868, pp. 220–222), a dozen more *livraisons* have reached us. Without fear of contradiction we may aver that this important and deeply-interesting work stands alone in the world. It is not merely the geologist or even the palæontologist who will find abundunce of new facts herein recorded; the comparative anatomist, and hence the systematist, must necessarily make himself acquainted with the author's labours. The osteological characters of the different families passed in review continue to be most ably treated by M. Milne-Edwards, in the method we before indicated; and, so far as the work has proceeded, there is no family mentioned which is not represented at the present day. The author displays a most catholic spirit, and, instead of confining himself (as the title-page would lead one to suppose) merely to the "Oiseaux Fossiles de la France," wisely extends his borders to treat of fossil forms from whatsoever part of the world they may come. The systematic ornithologist will do well to study attentively the facts adduced and the opinions laid down by M. Milne-Edwards respecting the characteristics and affinities of many great groups of birds—the "Longipennes" (*Procellariidæ* and *Laridæ*), "Totanides" (*Scolopacidæ* and *Charadriidæ*), "Ciconides" (*Ciconia, Platalea, Ibis,* and their allies), "Gruides" (*Gruidæ*), and "Phœnicoptérides" (*Phœnicopteridæ*), which last, he, like Prof. Huxley, removes from a place near the *Anatidæ*. The close alliance of the *Laridæ* and the large assemblage of forms so commonly regarded as divisible into two families—*Scolopacidæ* and *Charadriidæ,*—so often placed at a distance from each other, can, we think, no longer be doubted; and we hail with pleasure the concurrence of so high an authority in this view, which we have long believed to be correct (Ibis, 1868, p. 92). The extinct species of which remains are figured in these *livraisons* are twenty-eight in number*, as follows:—

---

* *Cf.* Ibis, 1859, pp. 440–454.

† Recherches anatomiques et paléontologiques pour servir à l'histoire des Oiseaux Fossiles de la France. Par ALPHONSE MILNE-EDWARDS. Livraisons 14–25. Paris: 1868–9. 4to.

"Totanides."

Totanus lartetianus.	Miocene.
Tringa gracilis.	
Numenius antiquus.	
Elorius paludicola.	

"Ciconides."

Ibis pagana.	Tertiary.
Ibidopodia palustris.	Miocene.
Pelargopsis magnus.	

"Gruides."

Grus excelsa.	Miocene.
—— problematica.	
—— primigenia.	"Quaternary."

"Phœnicoptérides."

Phœnicopterus croizeti, *Gervais.*	Tertiary.
Palœlodus ambiguus.	
—— goliath.	

---

* In our former notice of this work we omitted to mention *Dolichopterus viator,* which, with *Hydrornis natato* is referred to the Group "Longipennes."

Palœlodus crassipes.	Tertiary.
—— gracilipes.	
—— minutus.	
Agnopterus laurillardi.	Eocene.
Elornis littoralis, *Aymard.*	Tertiary.

"Ardéides."

Ardea perplexa.	Tertiary.

"Rallides."

Fulica newtoni. (*Cf.* Ibis, 1869, p. 482, *note.*)	
Gypsornis cuvieri.	Eocene.
Rallus eximius.	Miocene.
—— major.	
—— intermedius.	Eocene.
—— chrystii.	Miocene.
—— beaumonti.	
—— porzanoides.	
—— dispar.	

Elornis (allied to *Limosa*), *Ibidopodia, Pelargopsis, Palœlodus, Agnopterus,* and *Gypsornis* appear to be new genera; and of them the second seems to be perhaps the most singular form. It only remains for us to say that with the twenty-second *livraison* the first volume of this remarkable work is concluded, and to wish M. Milne-Edwards all possible success with the remainder.

It has been our hard fate on more than one occasion to find ourselves compelled to express but a moderate amount of satisfaction at the ornithological papers in the 'Revue et Magasin de Zoologie.' The volume for last year contains only four that may be regarded as original. To the first of these, by M. Grandidier (pp. 3–7), allusion has already been made (Ibis, 1868, p. 223) in noticing the series of papers of which it formed the conclusion. The second is a brief statement by the same gentleman (p. 48) identifying *Artamia bernieri* with *A. leucocephala.* The third is a continuation (pp. 50–53) of M. Marchand's Catalogue of the Birds of the Eure-et-Loir; while the fourth consists of some "Observations ornithologiques" by Colonel Tytler (pp. 193–199). These were contained in a letter bearing date 7th May 1863 (!) addressed to M. Jules Verreaux, and relate to the Andaman Islands. Had they appeared at the time we should have nothing to say against them. As it is, they are now about as useful as an almanack of the same year; for ornithological observations, unlike wine, do not generally improve by keeping five years; and we think it hardly fair upon Col. Tytler thus to resuscitate extracts from a letter of that age, even if originally intended for publication. Still less fair to Mr. Beavan is the omission of all mention of his paper on "The

Avifauna of the Andaman Islands," which appeared in our Journal for 1867 (pp. 314–334), particularly when that article contained a large number of Col. Tytler's notes, furnished by him to its author, and bringing our knowledge of the subject up to a much later period. A comparison of the two papers will show that Col. Tytler finally did not admit *Cuculus striatus* or *C. varius* as Andamanese species, and the same with *Dicæum cruentatum* and *D. minimum*. The *Corvus culminatus* of his letter is the *C. andamanensis* of Mr. Beavan, as this gentleman informs us; the *Collocalia brevirostris* and *C. fuciphaga*, are the *C. nidifica* and *C. affinis* respectively; the *Arachnothera flavigastra* is *A. pusilla*, and the *Nectarinia goalpariensis* probably *N. pectoralis*.

The papers contained in our respected contemporary which are not original, are more numerous. They contain the conclusion of Professor Sundevall's remarks on Levaillant, before mentioned by us (Ibis, 1868, p. 103), translated by M. Olph-Galliard*, and a very curious note (pp. 95, 96) communicated by the same gentleman, relating to the occurrence in Sweden of *Phalaris psittacula*, an example of which was taken alive near Jönköping in that country about the middle of December 1860! We are indebted to our kind friend Professor Sundevall for some further particulars of this extraordinary fact. The bird had crept through a fence set along the edge of the water by the side of Lake Vettern, into the courtyard of a weaving-manufactory, where it was caught by two men and soon after died. The next day it was taken to Jägmästare Sandblad, of Tenhult, who has a good collection of birds. There it still is, its species, however, having been determined by Professor Fredrik Wahlgren, of the University of Lund, who sent a notice of the circumstance, with a description and figure of the specimen, to the Swedish 'Jägare-förbundets nya Tidskrift' for 1867 (p. 108). The figure, Professor Sundevall adds, is tolerably good. The remaining ornithological papers in the 'Revue' are by M. Alphonse Milne-Edwards and M. Grandidier, and reprinted from other sources. The gentleman last named has been so fortunate as to discover in Madagascar a perfect tibia, a femur, and several vertebræ, besides fragmentary remains, of *Æpyornis maxima*, which it is to be hoped will settle the vexed question of the true position of that remarkable and gigantic form: the tibia is 64 *centimètres* in length! Finally, we have to mention that the series of figures of nestling-birds is being still continued by M. Marchand.

---

* For separately printed copies (in which many of the errors of the press to be found in the original reprint are corrected) of this useful work we are greatly indebted to the author, and also to the translator.

3. ITALIAN.

The fourth volume of the 'Atti' of the Royal Academy of Sciences of Turin contains a paper by Dr. Salvadori on a small collection of birds brought from Costa Rica by Sig. Luigi Durando *. Twenty-three species are enumerated; and though none of them are new, some have been only recently described by Dr. Cabanis, Messrs. Lawrence, Salvin, and others, and the additional information given with respect to them is often of value. *Pheucticus tibialis*, Baird (*cf.* Ibis, 1868, p. 115), a handsome species, is figured for the first time. A new genus, *Urospatha* (p. 179), is proposed for the reception of *Prionites* or *Momotus martii* (Spix). It differs from *Momotus* proper (in which *Crybelus*, Cabanis, may be included) in having ten instead of twelve rectrices; but in this respect it agrees with the other genera of *Momotidæ*, namely, *Eumomota*, *Prionorhynchus*, *Hylomanes*, and *Baryphtheugus*. To the last-named, indeed, *Urospatha* is very closely allied, and almost the only character by which it may be distinguished is that afforded by the spatulate ends of the middle rectrices. All the species in the list are included in Mr. Lawrence's recent Catalogue of the Birds of Costa Rica, of which we hope soon to furnish a more extended notice. In conclusion, we may remark that we think the species included as *Picolaptes lineaticeps*, Lafr., should rather be called *P. compressus* (Cab.). It is true that the Central-American and Mexican bird has usually been referred to Lafresnaye's name and description (R. Z. 1850, p. 277); but we think Dr. Cabanis

---

* Intorno ad alcuni Uccelli di Costa Rica note di TOMMASO SALVADORI. Atti della R. Accademia delle Scienze di Torino, vol. iv. pp. 170–185, *cum tab.*

(J. f. O. 1861, p. 243) right in regarding the Venezuelan form as the true *lineaticeps.*

Besides the paper just noticed, Dr. Salvadori's kindness has supplied us with two others which he has contributed to the Eleventh volume of the 'Atti' of the Italian Society of Natural Sciences. The first of these is the Italian version of the article on new *Procellariidæ* which appeared in our last number (*vide suprà*, pp. 61–68); and the second is a description of two new species of *Caprimulgidæ*, on which the names *Stenopsis macrorhyncha* and *Scotornis nigricans* are conferred.

4. Dutch.

Dr. Finsch having now completed his Monograph on the Parrots *, which we briefly mentioned on a former occasion (Ibis, 1868, p. 112) it becomes our duty to give our readers a more extended notice of it; and the duty is a very pleasing one, on account of the extraordinary pains and thorough conscientiousness which the author has devoted to his subject. The whole work is divided into two parts, of which the first contains the General, and the second the Special natural history of the group. After a concise introduction, Dr. Finsch gives an historical and literary survey of his subject, wherein he treats of the Parrots of the ancients and of the middle ages; and then follows an abstract of the literature relating to the group, from Aldrovandi to the present time, with a few other matters. To this succeeds a very full account of their "outdoor-life," in which every aspect of their habits seems to be considered; and then a very well executed sketch of their distribution, which, being illustrated by a map, or, to speak more correctly, by five maps on one plate, forms certainly one of the most valuable portions of the whole work. After a chapter on the well-known disposition for wit which most Parrots display, their form and external structure are generally described, as well as their feathering and anatomy,—

---

* Die Papageien, monographisch bearbeitet von Dr. Otto Finsch. Zweiter Band. Leiden: 1868 (London, Williams and Norgate). 8vo, pp. 996, pls. 2–6.

a disquisition on their systematic arrangement, followed by a list of genera and species, concluding this part of the work.

Then begins the special part, wherein each species is considered separately and in very great detail; and this part occupies about five-sixths of the whole work. From what we have already said it will be gathered that no person ought in future to write anything on the *Psittaci* without consulting Dr. Finsch's Monograph. We shall content ourselves now by giving a short abstract of his systematic arrangement. He regards the group as forming a single family, *Psittacidæ*, of the Zygodactyl order, and divides it into five subfamilies as follows :—*Stringopinæ*, *Plictolophinæ*, *Sittacinæ* *, *Psittacinæ*, and *Trichoglossinæ*, which may be rendered more familiar to English ears by the names—though some are barbarous enough—Kakapos, Cockatoos, Maccaws (including many of the species commonly known as Parrakeets), Parrots proper, and Brush-tongue Lories. We will not presume to criticise this arrangement. Like most other things of the same nature, it has its bad as well as its good points; probably, however, the latter predominate. The separation of the genus *Strigops* (or *Stringops*, as Dr. Finsch would have us write it) from the other Parrots seems to be very proper. It will perhaps be remembered (*cf.* Ibis, 1868, p. 87) that in this form the mode of ossification of the sternum may possibly differ, as Prof. Huxley (P. Z. S. 1867, p. 424) tells us, from the mode in every other Carinate bird; but at any rate, the Kakapo's want of a keel is an undoubted fact, and must signify a good deal. The Cockatoos, too, and, one would think, the Maccaws, form each a very natural group; but we do not profess to give an opinion on Dr. Finsch's placing among the latter, rather than among the true Parrots, such generic forms as *Conurus* and *Palæornis*, to say nothing of *Brotogerys* and *Platycercus*. The advancement of the

---

* It is unfortunate, we think, that our author is compelled by the very strict rules of nomenclature to which he binds himself to make use of the name *Sittace*, and particularly *Sittacinæ*, when *Psittacus* and *Psittacinæ* also occur. Still, on his principles, there is clearly no help for it, though whether those principles are justifiable is another matter. *Sittace*, as Dr. Finsch rightly quotes (i. p. 34, note) from Pliny, is a word of barbarous origin, just as *Ara* is, the chief difference between them being that one was latinized some fifteen hundred years before the other.

Brush-tongue Lories to an equal rank with the groups already named has been very strongly insisted upon by Mr. Wallace; and as Dr. Finsch agrees therein, we suppose that the position will be now freely conceded to them.

Our author divides the Parrots, of which he recognizes 351 good species, besides 41 doubtful ones, into 26 genera. From this it will be seen that he is by no means a great maker either of species or genera; indeed of the former we think he scarcely acknowledges all that deserve recognition. Only one species, *Bolborhynchus luchsi* (ii. p. 121), is described as new, the generic name of which, if it is to be used at all (being of later date than *Myiopsitta*), should be spelt as we have done, and not *Bolbor-rhynchus.* Finally, let us say that a capital index concludes this most laborious and valuable work, for which Dr. Finsch deserves the best thanks of ornithologists in general, and of psittacophilites in particular; we only wish we had any praise to bestow on the plates representing *Brotogerys subcærulea*, *B. chrysosema*, *Chrysotis guatemalæ*, *Coryllis*[*] *exilis*, and *Domicella fuscata* —the less we say of them the better.

5. NORWEGIAN.

A good list of the birds of Norway has long been a great desideratum; our friend Herr Robert Collett has done much towards supplying the want by publishing a catalogue of them with notes[†], chiefly treating, as the title of the paper indicates, of the geographical distribution of the birds in the country, and prefacing it with an excellent list of authorities. As regards the middle and south of the kingdom, the parts which have come personally under the inspection of the author or his immediate friends, the information seems to be all that can be desired; but as regards the north we think more is needed. Assertions, for instance, have been made over and over again that certain of the wading-birds, whose summer retreat is the puzzle of oologists (such as *Squatarola helvetica, Calidris arenaria, Tringa canutus,* and *T. minuta*), breed on the mountains of Nordland and Finmark. Far be it from us to contradict these assertions; but we must say we think they require more particular proof than we have ever been able to find. Many of them have been repeated so often that, until one comes to inquire into the evidence on which they rest, one is induced to believe that they are as true as they are desired to be thought. We are sorry to see what is certainly a mistake made by Herr Collett. He says that *Totanus ochropus* breeds near Bodö, and quotes the Messrs. Godman (Ibis, 1861, p. 87) as his authority for the statement, whereas they expressly declare that, though they searched every likely-looking locality, they did not succeed in finding the Green Sandpiper breeding there. Much, however, that is of value is contained in this paper. The fact that *Carpodacus erythrinus* has now been found breeding at Polmak on the Tana is particularly interesting when taken in connexion with the recent increase of its range in Finland, as observed by the HH. Nordmann (*cf.* Ibis, 1861, p. 111). So also is the account of the inroad made by the Grey Partridge (*Perdix cinerea*) into Norway in the last century, of which we were not before aware, and its subsequent disappearance to renew the attempt at settlement in 1811, which it has so far successfully accomplished that, creeping on year after year, it has now reached lat. 64°, or north of Trondhjem. Such a fluctuation, without any assignable cause, in the range of a species is worthy the attention of the students of bird-distribution. *Anser brachyrhynchus* has at last been recognized as breeding in the north of Norway, as it was some time ago suggested in this journal that it would be (Ibis, 1865, p. 514, note). Further proof of *Anser segetum* and *A. albifrons* breeding in the same district is yet, we think, required, since the latter has possibly been mistaken for *A. erythropus* (*cf.* P. Z. S. 1860, pp. 339–341, and Ibis, 1860, pp. 404–406). In conclusion, we have to remark that Herr Collett appears to give a wrong derivation for the name "*leucorodia,*" since Aldrovandi, who seems to have first used the word, assigns as a translation of it "*Albardeola,*" which precludes the "rose-coloured" view taken by our friend, whom we beg to excuse such of our criticisms as are unfavourable, while sincerely thanking him for a most useful contribution to the ornithology of his native country.

---

[*] *Coryllis* is a name which the author in following his very strict rules of nomenclature is obliged to bestow on the genus usually known as *Loriculus.*

[†] Norges Fugle, og deres geographiske Udbredelse i Landet, af ROBERT COLLETT. Særskilt aftrykt af Vidensk.-Selsk. Forhandlinger for 1868.

6. Russian.

In a paper communicated to the Imperial Academy of Sciences of St. Petersburg on the 11th (23rd) of April, 1867, but only recently published [*], Professor Brandt returns once more to the much-disputed question of the affinities of the Dodo. His previous investigations of this subject were made some twenty years previously [†]; and an abstract of them was published in a "Postscript" to Strickland and Melville's work ('The Dodo,' &c. pp. 120–122), showing the author's opinion to be that "the Dodo was better placed as a Cursorial bird in the vicinity of the Plovers." It is unfortunate, we think, that Prof. Brandt's later remarks were made prior to the publication of Prof. Owen's elaborate description of the osteology of this interesting form in the 'Transactions' of the Zoological Society, and are chiefly based on the labours of MM. Alphonse Milne-Edwards, Gervais, and Coquerel (*cf.* Zool. Record, iii. pp. 105, 106), and the paper of Mr. George Clark published in this journal (Ibis, 1866, pp. 141–146). Prof. Brandt summarily disposes of the hypothesis of MM. Gervais and Coquerel, who follow De Blainville, and would ally the Dodo to the Vultures, but criticises at some length the Pigeon-theory, which, we believe, is the one now generally adopted. He lays great stress on the fact that the Dodo-bones found by Mr. Clark in the Mare aux Songes were in company with those of many water-birds, and thence argues in favour of the first having aquatic habits. After passing in review the various points presented by the authors we have named and some others, Prof. Brandt states that the questions which have to be answered are (1) whether the Dodo should stand as an anomalous form beside the Pigeons, (2) whether it would be more conveniently enrolled among the Waders, or (3) whether in consequence of its mixed characters it should be regarded as the type of a peculiar order. Each of these questions, he considers, has more or less claim to be answered in the affirmative, but he finally declares himself in favour of a scheme which would divide the *Grallatores* into six families:—(I.) *Alectoridæ*, including *Palamedea, Psophia, Dicholophus*, and *Otis*; (II.) *Dididæ*; (III.) *Charadriidæ*; (IV.) *Scolopacidæ*; (V.) *Herodii*, comprising *Ibis, Platalea, Tantalus, Ciconia, Anastomus, Dromas, Scopus, Balæniceps, Cancroma, Ardea*, and *Grus*; and, lastly, (VI.) *Rallidæ*, with *Rallus, Gallinula, Porphyrio, Parra, Fulica*, and *Podoa*. A diagram follows, which shows that the *Alectoridæ* and *Rallidæ* are each allied to the orders *Gallinaceæ* and *Natatores* respectively, and *Charadriidæ* to the order *Columbinæ*, each of these groups last mentioned having a relation to *Dididæ*, which, again, has affinities to the order *Cursores* or *Struthionidæ*. Individually we do not agree with the decision at which the author arrives; but the paper (as might be expected from Prof. Brandt's great reputation) is a very able one, and brings out forcibly several characteristics of our old friend *Didus ineptus* which certainly should not be overlooked, while the whole subject is treated with much judicial fairness.

---

[*] Mélanges Biologiques tirés du Bulletin de l'Académie Impériale des Sciences de St. Pétersbourg, tom. vi. pp. 233–253.

[†] Bull. Phys. Math. Acad. St. Pétersb. vii. p. 111 *et seq.*

7. AMERICAN.

Quickly following on Dr. Coues's South-Carolina 'Synopsis,' which we noticed in our last number (*vide suprà*, pp. 118–120) comes an equally good "List of the Birds of New England" from the same unwearied pen *. Mr. Samuels, as our readers will recollect (Ibis, 1868, p. 346), has recently been over the same ground; but Dr. Coues remarks that the present list is "perhaps more needed since than before the appearance of Mr. Samuels's work;" and the remark seems to be true from various inaccuracies therein which are adduced. The Doctor is throughout critical (in the best sense of the term) of the labours of his various predecessors, of whom at least fifteen are enumerated. Of course the majority of his notes are chiefly of local interest only; but the following passage has a more general application.

"Within the area of New England, as is well known to those familiar with the distribution of our species, are represented portions of two Faunæ [the 'Canadian' and the 'Alleghanian'] which differ in many respects from each other. There seems to be a natural dividing line between the birds of Massachusetts and Southern New England generally, and those of the more northern portions of the Eastern States. Numerous species which enter New England in spring, to breed there, do not proceed, as a general rule, farther north than Massachusetts; and many others, properly to be regarded as stragglers from the south in summer and early autumn, are rarely if ever found beyond the latitude of this State. In like manner many of the regular winter visitants of Maine are of rare or only occasional occurrence, or are not found at all much farther south. Again, many species hardly known in Massachusetts and southward, except as migratory species passing through in spring and autumn, are in Maine regular summer visitants, breeding abundantly. Other minor differences, resulting from latitude and physical geography, will readily be brought to mind by attentive consideration of the subject, and therefore need not be here detailed. It will be evident that a due regard for these important points has necessitated, in the case of almost every species in the list, remarks elucidative of the special part it plays in the composition of the Avi-fauna."

---

* A List of the Birds of New England, by ELLIOTT COUES. (Reprinted from the Proceedings of the Essex Institute, vol. v. pp. 249–314.) Salem, Mass.: 1868. 8vo, pp. 71.

Some of our readers may like to know that remains of *Alca impennis* have been lately discovered in three New-England localities, to wit, Mount Desert and Crouch's Cove in the State of Maine, and in "shell-mounds" at Ipswich in Massachusetts, where a *humerus* was found by Professor Baird in August last.

XXI.—*Letters, Announcements, &c.*

The following letters have been received, addressed "To the Editor of 'The Ibis'":—

Helsingfors, December 29, 1868.

Sir,—Professor Sundevall, in his 'Svenska Foglarna,' records the following birds, among others, as having been found in

South Africa by the celebrated Swedish traveller Wahlberg; and as these are not included by Mr. Layard in his work on the ornithology of that country, nor mentioned by Mr. Gurney in his remarks thereon, published in 'The Ibis,' perhaps a notice of them will not be out of place in the pages of your Journal.

1. *Anthus arboreus.* One specimen killed on the Limpopo in Caffreland, between lat. 25° and 26° S., by Wahlberg (Sundevall, *op. cit.* p. 41).

2. *Budytes flavus.* A male obtained at Port Natal, lat. 30°, by Wahlberg (*ut suprà,* p. 46).

3. *Sylvia hortensis.* A pair procured in Caffreland by Wahlberg, between the 19th and 28th of November (*ut suprà,* p. 64; Meves, Œfvers. k. Vet.-Akad. Förh. 1860, p. 199).

4. *Ficedula hypolais.* Caffreland, 17th of March (Sundevall, *ut suprà,* p. 68; Meves, *loc. cit.* p. 202). Perhaps identical with *Sylvia obscura,* Smith (Layard, B. S. Afr. p. 102).

5. *Caprimulgus europæus.* Port Natal, 2nd of February 1840), J. Wahlberg (Sundevall, *ut suprà,* p. 154). Not to be confounded with *C. smithi.*

All the specimens above mentioned are to be found in the National Museum at Stockholm.

I take this opportunity of informing you that, during the late expedition to Spitsbergen, I found a pair of *Strepsilas interpres* on Amsterdam Island (*cf.* Ibis, 1865, pp. 207, 505), one of which was shot on the following morning by our Conservator Svensson. *Bernicla leucopsis* (*cf.* Ibis, 1865, pp. 499, 512, 513) is certainly an inhabitant of Spitsbergen. Many were seen in Advent Bay, and Dr. Smith killed one in the beginning of August. On Bear Island I found a flock of *Loxia curvirostra,* two of which I shot.

I remain, Sir, &c.,
A. J. Malmgren.

Sir,—In 'The Ibis' for October 1868 (pp. 495, 496) I find a supposed new Flamingo described by Captain Feilden as *Phœnicopterus rubidus.* I have recently seen in the Delhi Museum a fine specimen of the undoubted *P. minor*, Vieill., figured by Temminck (Pl. Col. 419) as from India. It was procured at Jhujjur, near Delhi, and lived for some years in the gardens there. It corresponds pretty nearly, both in colour and dimensions, with the Flamingo procured by Capt. Feilden, who, however does not mention the peculiar structure of the bill, which differs remarkably from that of *P. roseus*. In the presumed *P. minor* the upper edge of the lower mandible, instead of running nearly parallel with the upper mandible, as in *P. roseus*, rises somewhat abruptly to the angle where the bill is deflected, and is there quite on a level with, or almost exceeds, the upper mandible; and from this point it runs down to the tip, parallel with the upper mandible, which is little more than a lid to it, being quite depressed and shallow. The colour of the bill of the Delhi bird (which had been stuffed for nearly a month before I saw it) was very deep red, with a bright red spot on the lower mandible near the tip, which is black, very closely indeed resembling the colour of the bill as depicted by Temminck, who also marks the peculiar structure of the bill.

The colours of the Delhi bird correspond exactly with Capt. Feilden's description, except in one point. It is of a beautiful pale rosy colour, darker at the base of the lower mandible, the wing-coverts beautiful deep rosy, the feathers edged with whitish, and the lower tail-coverts darker rosy, and lengthened, exceeding (in this example) the tail; but the *upper* tail-coverts are not darker rose-colour, as is stated by Capt. Feilden of his bird, perhaps by a *lapsus pennæ*. The dimensions of the stuffed bird are as follows:—Length about 39 inches; wing 12·5; tail 4; tarsus 7·5; middle toe 2·75.

This is doubtless the small Flamingo mentioned by me, in my 'Catalogue of the Birds of the Peninsula of India' (No. 374), so long ago as 1840, as occasionally occurring near Jaulna (in the same district as Secunderabad), of which many *shikarees* in the upper provinces have frequently told me. Mr. Hume, to whom I had sent, previously to seeing the last number of 'The Ibis,' a short notice of the Delhi bird for publication in his forthcoming work, informs me that a correspondent of his has lately assured him of the occasional occurrence of a small Flamingo at the Nujufghuru *jheel*, near Delhi, very close indeed to the spot where the Delhi bird was captured.

I am, Sir,
Yours faithfully,
T. C. Jerdon,
Deputy Inspector-General of Hospitals.

10th January, 1869.

Sandy Point, Strait of Magellan,
January 13th, 1869.

Sir,—Although I have but little information to give you in the ornithological line, I dare say you will not object to receiving a short notice of my movements since I wrote last. Soon after that I paid a visit to Santiago, and saw the museum there, which interested me greatly; and I had the pleasure of meeting Dr. Philippi, with whom I was delighted. The museum contains an admirable representation of the natural history of Chili—though comparatively few specimens are exposed to the public gaze, owing to the very small space that can be obtained for them. Dr. Philippi was most kind in showing me all that I wished to see, and imparted to me much information on the botany and geology of the country. The collection of the birds of Chili, including those of the Strait of Magellan, is a very fine one; but I think I have sent you several from the Strait that it does not contain.

We left Valparaiso on the 3rd of November, on our way to the Channels, visiting Sata, Sico Bay, Chiloe, and the Chonos Archipelago. At Chiloe I procured a few additional species of birds, including a Woodpecker, one or two small Finches, and one of the two species of *Hæmatopus* which are met with in the Strait—the black-and-white one resembling our British bird. At Port Saguna, in the Chonos Archipelago, I obtained a specimen of the other species. I also got a few crania of *Myopotamus*. We entered the Channels on the 27th of November, and passed slowly southward through them, reaching Shell Bay at the southern entrance of Smyth's Sound on the 21st of December. The following day we crossed the Strait to the northern part of the Island of Desolation; and there, in Tuesday Bay, where we spent a few days, my friend Dr. Campbell (to whom I am indebted for the greater number of the birds I have collected) shot an excellent male specimen of the *Dafila* * of which I sent you a female. Should the species prove to be new, it will be a curious instance of one neglected on account of its commonness, as it is one of the most plentiful of the *Anatidæ* of the Strait. I would send you a description; but I am overwhelmed with letters at present, for we expect to despatch a bag by a steamer which passes through the Strait from Valparaiso in a week's time, and I must therefore content myself with waiting till I send off the specimens at the end of the season. We spent some time examining the ports on both sides of the western portion of the Strait; and in San Nicolas Bay (Patagonia) I got a specimen of a larger Grebe than any I have yet sent home. In various localities we saw examples of *Chloephaga poliocephala*, and I have got another specimen of it. Since we came here I have got examples of *Troglodytes magellanicus* † and *Hirundo meyeni*, which were not included in my former collections, as well as a female specimen of *Theristicus melanopis*, superior, I think, to that which I sent before. I have preserved its sternum, which has a very deep keel; and the scapulæ are broad. I found the stomach crammed with worms and large larvæ. The portion of the trachea below the insertion of the sterno-tracheal muscles, though presenting no striking peculiarity of form, had the bony rings anchylosed so as to form an immoveable tube. I have now between twenty and thirty birds' skins, and have preserved the sterna whenever I found it practicable. Except a few Gulls, Petrels, and Cormorants, I fear I am scarcely likely to get any more species. I had hoped to have sent you before now some notes on the anatomy of the Steamer-Duck, which I had begun to prepare; but an attack of rheumatism in my right wrist disabled my hand for a considerable time, so that I have been kept back in my operations. We are likely to remain in the Channels until the month of May, and then probably return to winter at Valparaiso, whence I shall despatch my specimens and write to you again.

---

* [*Cf.* Ibis, 1868, p. 189. no. 40.—Ed.]

† [Qu. potiùs *T. hornensis*, Lesson?—Ed.]

I am, &c.,

ROBERT O. CUNNINGHAM.

P.S. Monte Video, Feb. 10th.—A few weeks ago I had no anticipation of being at this port; but the Pacific Steam Navigation Company's ship 'Santiago' was lost in the Strait of Magellan on the 23rd of last month, and we brought her passengers, who were nearly all saved, on here. Owing to unexpected circumstances, it is not unlikely that I may be in England next autumn.

Etawah, 30th January, 1869.

SIR,—If Dr. Bree's description of *Saxicola leucura* (B. Eur. ii. pp. 119–122) be correct, it appears to me that there is no distinction whatever between that bird and the Indian *S. leucuroides.* Under the head of specific characters, he says:—"Plumage black, or blackish, with the upper and lower tail coverts white; tail white, with half of the two middle quills and the posterior fourth of the laterals black." Now this is exactly the description of the Indian bird, especially with regard to the amount and distribution of black and white on the tail-feathers. The resemblance between one of my birds and Dr. Bree's plate is perfect. I think, therefore, that *S. leucuroides,* as a species, should be suppressed. The female is a very dusky bird, darker again than the female of *S. picata.* It could not possibly be mistaken for the female of *S. œnanthe.* There is no white line over the eye of the female *S. leucuroides.*

I have some Wheatears in autumnal plumage, which Mr. Hume, to whom I showed them, pronounced to be *Saxicola saltatrix.* Dr. Bree, in describing *S. saltatrix* (*tom. cit.* pp. 136, 137), does not describe the bird with sufficient minuteness to distinguish it from the female or young of *S. œnanthe.* My birds, above mentioned, have a black band from the base of the bill to the eye. Round the forehead, and extending above this black band, and over and behind the eye for about ·125 in., is a white stripe. In other respects the bird is like Dr. Bree's plate, but does not agree with his description when he says the back is "a mixture of buff with *olivaceous green.*" My birds are brownish-buff above, without any tinge of green. Are my birds *S. saltatrix* or *S. œnanthe*? I am inclined to believe, the latter. Is *S. saltatrix* a good species?* I have never seen the bird; but the plate in Dr. Bree's work and the description strongly resemble the autumnal plumage of *S. œnanthe.*

Descriptions of birds which closely resemble one another are generally too careless and indefinite to be of any use. Specific distinctions ought to be picked out and prominently noticed. For want of this, endless mistakes are made. Excessive detail in measurement is not wanted; for birds of the same species vary so much, from the length of the whole body to that of the shortest claw. In fact, by extreme measurements only being given, I have often been led astray when my bird happened to be an undersized one, with perhaps an unusually short tail. I have sometimes noticed that the relative length of the primaries varied a little in the same species, and sometimes even a variation between the right wing and the left!

Dr. Jerdon, in looking over a part of my collection the other day, pronounced two specimens which I had called *Phyllopneuste rama,* to belong to a new species. They are very much smaller than the average *P. rama,* with none of the grey tinge observable in the upper plumage of that bird, being much more rufous both above and below. I give the measurements of these two birds, and a short description, and have to observe that both on dissection proved to be females.

The first measures, whole length, 4·3125 in.; wing 2·25; tail nearly 2; bill from front ·35; tarsus ·6875. The other bird is in whole length 4·4375; wing 2·3125; tail 1·875; bill from front ·35; tarsus ·75. The entire upper plumage is a very pale brown, with a rufous tinge; over the eye a cream-coloured streak. Wing- and tail-quills somewhat darker brown, with light edgings; wing-coverts also with lighter edges; rump lighter in colour than the rest of the back. Whole of the lower parts white, or, rather, cream-colour; flanks and sides of breast with a tinge of brown. Upper mandible brown; lower

* [*Cf.* Ibis, 1867, p. 94.—Ed.]

one brownish-white. Legs yellowish-brown; feet and claws rather darker brown.

I observe that my examples of *P. rama* shot in April are nearly as rufous as the above-described small specimens. Those shot in the autumn and winter are much greyer, and darker. The usual length of *P. rama* is from 5 inches to 5·125 in.; wing from 2·25 to 2·375.

Although Dr. Jerdon was satisfied that the birds above described are distinct from *P. rama,* I do not think that their small size alone should constitute them a separate species. I am doubtful about it, as I have so often shot diminutive examples of well-known species. I have, however, a single specimen, a female, of a *Phylloscopus,* which I cannot make out. This bird exactly resembles in size and colour *P. brevirostris,* but is entirely without any yellow under the wings; nor is there any tinge of greenish yellow on the edges of the lesser wing-coverts. This bird Mr. Hume pronounced to be the English Chiffchaff, *P. rufus,* because it was white under the wings instead of yellow. But one of the very characteristics of *P. rufus,* according to Yarrell and Macgillivray, is the having the "under wing-coverts primrose-yellow" and "the axillar feathers and lower wing-coverts pale yellow."

My bird may be either an accidentally pale-coloured specimen of *P. brevirostris,* or it may be the new *Phylloscopus* mentioned by Dr. Stoliczka in his "Ornithological Observations in the Sutlej Valley," recently published in the 'Journal of the Asiatic Society'*.

With regard to *Phylloscopus brevirostris,* I do not myself believe it to be a good species; for I have repeatedly heard it singing the well-known notes of the Chiffchaff, and shot the bird as it sang, to make sure. I have specimens with bills as long as any Chiffchaff's. The bird frequents dâl-fields, and sings as it feeds from bush to bush. The song was subdued (the time being only January), but there was no mistaking it.

I have lately had frequent opportunities of hearing the call-note of *Reguloides proregulus.* It is very different from that of *R. superciliosus,* and is extremely shrill, feeble, and tinkling.

* [*Vide suprà*, p. 211.—Ed.]

There are two notes in the call, the second considerably above the first, D to F sharp; and in uttering its call the bird keeps the two notes quite distinct, and not slurred into each other, like the call of *R. superciliosus*. The call of this latter bird, which is extremely like that of *Phylloscopus viridanus*, but more bell-like and musical, Mr. Blyth, as quoted by Dr. Jerdon (B. Ind. ii. p. 194) would express by the words "tiss-yip." The call-note of *P. trochilus*, though more mellow and musical, will give a very good idea of what Mr. Blyth means. The call-notes of birds being generally musical notes, cannot, however, be expressed in writing by syllables, so as to give any correct idea of the real sound.

With regard to the notes of *Grus leucogeranus*, how the natives can imagine that their name, "*Karekhur*," or, as I should call it, "Care-cŭr," expresses any one of them, I cannot conceive*. The notes are all simply whistles, from a mellow one to a peculiar feeble shrill shivering whistle, if I may so express it. No written word will express the note of this species, nor give the faintest idea of it. I watched a flock of these fine birds for a long time yesterday as they fed in a marsh in company with about a dozen of *G. antigone*, and three of *G. cinerea*. I found it impossible to get within shot of the White Cranes, nor could I get them driven over me as I sat in ambush; for, as soon as they take wing, they immediately begin to soar, and circle round and round till they attain a height far above the reach of any shot; they then fly straight away, uttering their peculiar whistle, which, though weak compared with the call of other Cranes, can still be heard a mile off, or even more. It is a magnificent bird, and, I think, the most graceful of the group in its attitudes. The species is abundant, being found in large flocks; and the eggs might be obtained from Russian sources. The plumage is so very compact and Swan-like that it must go very far north to breed, where perhaps its snowy plumage harmonizes with the still unmelted snow as it sits upon its nest.

I am, &c.

W. E. Brooks.

---

* [*Cf.* Ibis, 1868, p. 31, note.—Ed.]

Agra, February 22, 1869.

Sir,—In 'The Ibis' for 1868 (page 325) Mr. Tristram has some remarks on the difference observable in the breeding-habits of certain *Ardeidæ* in Algeria and Palestine, and, on Dr. Jerdon's authority, in India. Now the fact is that in India several species of Herons and Bitterns, notably *Ardea purpurea,* breed by preference in large clumps of bullrushes and reeds. On August 16, 1867, when Mr. Brooks and I were out in the Etawah district, near the Lohya bridge of the Ganges Canal, we came across a large heronry of the species just named. In the midst of a large *jheel* or swamp, in many places grown up with rushes and wild rice, in others with deep and comparatively clear water thickly paved with leaves of the lotus and water-lily, stood two large dense clumps of bullrushes. As we passed within about a hundred yards of these, firing once or twice at Ducks, we saw some thirty or forty long necks make their appearance among the waving tops of the bullrushes. It was quite clear that the owners of the necks must be standing on something well above the level of the water; and so we at once sent men to search the clumps—no easy matter, as it proved. It turned out that these Herons had, by bending down thirty or forty of the rushes, made small platforms from 18 inches to 2 feet above the water, and on them built nests of loose sticks. In two nests we found five eggs, in one four, in all the rest three, two, or one. We took forty-six eggs, all fresh, from these clumps; and later Mr. Brooks took, I believe, a second supply. It was clear that the birds built among the rushes from choice, since the *jheel* was surrounded on two sides, at a distance of not more than a hundred yards, by a belt of large trees.

Since then I have obtained other eggs of the Purple Heron and those of *Butorides javanicus* (a single nest) from a similar situation, as well as three nests of *Nycticorax griseus* from a reed-bed; so I think we may fairly conclude that in India, as elsewhere, many of the *Ardeidæ* breed in fens and marshes by preference.

It may not be generally known that small birds up to the size of a Lark may be perfectly preserved, with very little trouble, by using carbolic acid. Open the abdomen, and with a forceps extract the whole of the entrails, liver, heart, and so forth; wipe the cavity of the body out carefully with a little cotton-wool, and then fill it with clean cotton-wool dipped in a saturated solution of carbolic-acid crystals, and with a stitch or two close the opening. Open the mouth, cut through the palate into the brain-pan and eye-sockets so as to ensure the acid penetrating to the brain and eyes, and stuff the mouth and throat with cotton-wool soaked, as before, in the solution; tie the mouth up, and place the specimen in a paper cone to dry, as usual. In a short time the flesh dries hard and stiff, and never, from first to last, has any unpleasant smell. How long birds thus preserved will last I do not know; but I have now about fifty by me, one of which was prepared at Simla in October last. By this plan the whole skeleton is retained, and by steeping it continually in warm water the body becomes available for dissection. A novice may in this way easily preserve from fifty to sixty beautiful birds in a single day. The eyes sink, it is true, and somewhat spoil the appearance of the head; but, with this exception, the specimens thus prepared are superior, so far as looks go, to those preserved by skinning, while neither *Dermestæ* nor *Tineæ* will go near them.

I remain, &c.,

Allan Hume.

⁂ We have not before heard of carbolic acid being used to prepare birds; but entomologists have been alive to its merits in the preservation of *Coleoptera*. Mr. John Hancock has for many years been in the habit of using pyroligneous acid, much in the same way as Mr. Hume now uses carbolic acid; but with the former it is not found necessary (in temperate climates at least) to extract the entrails, or to perforate the brain through the palate, which last, since Prof. Huxley's researches, certainly should be left uninjured. Perhaps some of our correspondents in hot climates will make experiment of the properties of both acids, and report to us the result.—Ed.

Copenhagen, 25 February, 1869.

Sir,—From a passage in 'The Ibis' for 1868 (p. 484) I learn that you have never had an opportunity of consulting Mandt's little Dissertation. As I possess a copy of this somewhat rare tract, I can inform you that the author was never in Greenland. He was on board a Hamburg whaler, which, in 1821, was fitted out to catch whales in the sea surrounding Spitsbergen, or, rather, in the sea between that country and the east coast of Greenland,—a voyage which is very often called in sailors' language a Greenland voyage, while the fishery on the other side of Greenland was known as the Davis's Strait fishery. I subjoin a copy of his description of *Uria mandti*, as it is somewhat more detailed than the short diagnosis given by Lichtenstein.

“ MANDT, Observationes, &c. Diss. inaug. 1822, p. 30, § 29.

“ Avium quae illis in regionibus degunt jam in prooemio mentionem feci, quae quum nihil non cognitum exhibere videantur, hic tantum de ea quaedam subiiciam, quam Ill. Lichtenstein tanquam novam speciem nomine designavit

“ *Uriae Mandtii.*

“ Humanissime mecum sequentes notas communicavit characteristicas quibus insignitur: Rostro elongato gracili, fuliginoso-atra [*sic*], tectricibus alae remigibusque secundariis apice et margine interno albis.

“ 1.)	Longitudo a rostri apice ad basin narium plumatam	1′ 0″
2.)	„ a basi narium ad verticem	1′ 6″
3.)	„ a vertice ad interscapulium	4′ 0″
4.)	„ ab interscapulio ad uropygium	4′ 2″
5.)	„ ab uropygio ad apicem caudae	1′ 10″
6.)	„ a rostro ad caudae apicem	12′ 6″
“ 7.)	Longitudo a flexura alae ad apicem remigis primae	6′ 0″
8.)	„ a flexura alae ad apicem remigum secundi ordinis	4′ 0″
9.)	„ tarsi	1′ 2″
10.)	„ digiti medii cum unguiculo	1′ 8″
11.)	„ unguiculi digiti medii	0′ 5″

“ Rostrum nigerrimum, iris aurantiaca, tarsi, digiti cum membrana cinnabarini, unguiculi atri compresso-arcuati, acuti.

“ Simillima *Uriae Grylle*, Lath., differt ab ea: 1) magnitudine; 2) rostro graciliore, obscuriore; 3) remigibus secundariis multo longioribus, apice et margine interno albis; 4) cauda, tarsis, digitis, unguiculis, pro mole avis longioribus.

"*Obs.* Speculum alae e tectricibus (ut in *Grylle*) compositum, in nostris speciminibus hinc et inde nigro adspersum, a maculis tectricum nigris apicalibus, versus flexuram alae confertioribus.

"Utrum prioris ptiloseos vestigia, an persistentes hae maculae, vix diiudicandum."

I am, &c., J. REINHARDT.

⁂ Though Mandt does not seem, any more than Lichtenstein, to have perceived one of the most unfailing characters of this species—the almost total absence of the concealed black band on the wing-spot, which has been before pointed out (Ibis, 1865, pp. 518, 519), yet there can be no doubt of his description referring to the bird which inhabits, so far as we know, exclusively the Greenland and Spitsbergen seas. The spots on the *speculum*, of which he speaks, are no doubt the remains of a former stage in the plumage, as he himself suggests in his last sentence.—ED.

---

49 Via Romana, Florence,
March 3rd, 1869.

SIR,—I was very much interested in Dr. Cunningham's letter (Ibis, 1868, pp. 486–495). On the 7th of December, 1867, we came across the 'Nassau' lying at anchor near Gregory Bay; but as we were bound outwards, I missed the pleasure of making his acquaintance; for it would have been very interesting to compare notes with him. Since then I see he has been over the same ground as I explored in the 'Magenta'; and on reading his letter, I find that all our observations coincide. We were for more than a fortnight in Halt Bay; and the "little Grebe" he noticed there was doubtless *Pelecanoides berardi*, Q. & G.*, which is common, but very difficult to shoot on account of its remarkable diving powers. I was fortunate enough to procure three fine specimens—two at Halt Bay, and one at Porto Bueno in Magellan's Straits. I see that Dr. Cunningham was disappointed in his search for Coots. I never met with any, although Captain King seems to have found them plentiful in some of the Patagonian channels.

---

* [The collection of birds sent home by Dr. Cunningham, and, with the permission of the Lords of the Admiralty, presented by him to the Museum of the University of Cambridge, does not contain this species. There is, however, an example of *Podiceps rollandi*, Q. & G., obtained in the locality above mentioned, which is, we think, probably the bird spoken of by him. Messrs. Sclater and Salvin have favoured us with a list of and some notes on this collection, which we hope to publish in our next number.—ED.].

And now, leaving the interesting shores of Patagonia, which recall to my mind pleasant days too soon passed away, let me return to old Europe, whose *Ornis*, though so well worked out, always presents some interesting fact. On the 12th of February last a magnificent specimen of the rare *Bernicla ruficollis* (Pall.) was shot between Scarperia and Borgo San Lorenzo, twenty-two miles or thereabouts from Florence. It was an adult male in full plumage; and this, I believe, is the only well-authenticated case of the occurrence of this rare eastern Goose in Italy.

I am, &c. H. H. Giglioli.

Chislehurst, Kent, March 23rd, 1869.

Sir,—In a collection of birds' skins obtained in the island of Java, I have found examples of *Lanius superciliosus*, Lath., and *L. magnirostris*, Less., thus disposing of all doubts* as to the existence of these two species in that island. The first is not materially distinguishable from my Hakodadi example formerly figured in this Journal (1867, pl. v. fig. 2), nor from Malaccan specimens which I have lately seen. This species, therefore, possesses a wide range, and is probably migratory. It is the same as "*L. phœnicurus*, Pall.," of Schrenck (Reisen im Amur-Lande, i. p. 384); but I have not as yet been able to determine whether he has rightfully identified Pallas's species. The examples of *L. magnirostris* in no way differ from Malaccan and Sumatran individuals; the titles consequently of *L. ferox*, Drap. and *L. crassirostris*, Kuhl, must fall to the rank of synonyms.

I am, &c. Walden.

We have received a letter from Dr. Brewer with regard to some remarks which appeared in the last volume of this Journal

---

* *Cf.* Ibis, 1867, pp. 219–222.

(Ibis, 1868, pp. 347, 348). Our good friend says:—"That I did not mention the volume and page of 'The Ibis' was for the simple reason that I wrote from memory, and was unable to refer to the *data* you think I should have given. I am free to say, however, that even if I had had the volume at hand, I do not think it would have occurred to me as important to mention the reference or the name of the 'impertinent' writer. As it was, this was simply impossible . . . . Had I recalled his name or had ready access to it, I would have mentioned it; and it certainly did not occur to me that I should be suspected of intending any disrespect towards a journal I so highly esteem as 'The Ibis.'

"In now looking back upon *our* decision—for it was Prof. Baird's as well as my own,—when we accepted the apparently perfect chain of evidence which seemed to demonstrate the egg to be that of the Pigeon-Hawk, I am unable to see wherein we were hasty, or wherein we acted otherwise than any one should have done in our place. A perfectly trustworthy man, a sportsman, Mr. Cheney, of Grand Menan, who had been employed by me to collect eggs, produced not only the nest and eggs, but the parent-bird, which he had shot flying, as he supposed, from the nest. It was not such an egg as I expected to find it, though it did agree with some accounts of it. We must now suppose the bird thus shot to have been an unfortunate interloper, and not one of the parents; but why should we then suppose anything of the kind? Yet the possibility of this did occur to us, and we gave the world all the benefit of our doubts. After having thus gone further in this direction than there seemed to be any occasion, it certainly was provoking to have one who so plainly showed his imperfect knowledge thus claim to know so much and presume to lecture me for not deciding as he now assumes that I ought."

We think it due to Dr. Brewer to print the foregoing extracts from his letter; and we cordially accept his disclaimer of any intention to "cast a slur" on this Journal; while we have also to thank him for the kind expressions he is good enough to use (in a part of his letter, which we do not print) towards 'The Ibis' and its Editor.

It is with very great regret that we have to record the death of John Cassin, which took place at Philadelphia on the 10th of January last. Among the many ornithologists whose loss has been deplored in this Journal, there has not been one of such approved scientific reputation as the last who has been taken from us. Born in Pennsylvania in 1813, the deceased naturalist passed the greatest part of his life in the City of Brotherly Love, devoting the leisure moments of a busy career to the study of Natural History, and especially of Ornithology. His labours will long live; for such works as the 'Birds of California,' the Ornithology of the several United States' Expeditions under Gillis, Perry, and Wilkes, and his share in Prof. Baird's 'Birds of North America,' are enduring monuments, to say nothing of the numerous and nearly always valuable papers communicated by him to various publications, and in particular to those of the Academy of Natural Sciences of Philadelphia, of which he was one of the most active members. A word more also must be said by us: those foreign ornithologists who have visited the magnificent Museum of which the "Quaker City" boasts (and both the late and the present Editor of 'The Ibis' have enjoyed that good fortune) can never fail to have been charmed by the obliging and unpretending manner in which Mr. Cassin did the honours of the institution, by his alacrity in calling the attention of the stranger to its chief treasures, and his willingness to discuss with the best temper such questions as always arise when naturalists meet. We sincerely condole with our American brethren in general, and with the Philadelphia Academy in particular, in the loss which, in common with them, we have sustained; for the death of this distinguished ornithologist leaves a vacancy also in the list of the Honorary Members of the B. O. U.

Erratum in 'The Ibis' for 1868.

Page 420, line 1, *for* "verticalis, Baird," *read* "carolinensis (L.)."

THE IBIS.

NEW SERIES.

No. XIX. JULY 1869.

XXII.—*Third Appendix to a List of Birds observed in Malta and Gozo**. By Charles A. Wright, C.M.Z.S.

259. Aquila chrysaetus. (Golden Eagle.)

One specimen has been observed, of which I only succeeded in securing the head and neck; but these were sufficient to determine the species.

260. ? Falco lanarius. (Lanner.)

MM. Jaubert and Barthélemy-Lapommeraye cite Malta as a locality for this bird, but do not state their authority (Rich. Orn. Mid. Fr. p. 55).

261. ?Buteo lagopus. (Rough-legged Buzzard.)

I find in Dr. Gulia's 'Repertorio di Storia Naturale' of Malta the following notice of the occurrence of this species here:—"In 1843, it was recognized by Professors Zerafa and G. Delicata. In 1859, I saw an individual which was killed at Zurrico."

262. Parus major. (Great Titmouse.)

An example of this species of Titmouse was taken alive in 1866. It is the only instance I know, of any of the *Paridæ* having shown themselves in Malta or Gozo. Dr. Gulia has, indeed, stated, in his remarks on the Natural History of these islands, that *Parus cæruleus* arrives in great numbers in Gozo during the spring migration, and that individuals have been taken in Malta; but he is evidently mistaken.

---

* *Cf.* Ibis, 1864, pp. 42-73, 137-157, 291, 292; 1865, pp. 459-466.

263. Anthus obscurus. (Rock-Pipit.)

A single specimen has come into my hands. Yarrell also states that it has been met with in Malta.

264. Emberiza melanocephala (Scopoli). (Black-headed Bunting.)

A specimen was obtained in 1867, and kept alive in a cage for some months. Drs. Gulia and Delicata also mention having observed it.

265. Hoplopterus spinosus (Linnæus). (Spur-winged Plover.)

Ornithologists will be interested to learn of the capture of this bird in Malta. Common on the great river that flows from the equatorial regions into the Mediterranean, and a visitor or resident in Palestine, Turkey, Greece, and Southern Russia, the presence of the Spur-winged Plover, with the exception of a rare and occasional visit to Italy, is otherwise unknown in Europe. Its appearance in this island is therefore an event which, although not calculated to excite astonishment, is no less unexpected and worthy of remark. The particulars relative to the subject of the present notice are few.

On the morning of the 12th of October, 1865, I found my birdstuffer waiting for me with news that he had just received a wounded bird of a kind he had not seen before, which he wished me to identify. He said he thought it might turn out to be a young Lapwing. We soon reached his dwelling; and I was delighted to find at a glance that he was mistaken, and that the bird was certainly no other than *Hoplopterus spinosus*. I told him to look at the carpal joints; and on doing so, he was much surprised to find the strong sharp spur with which this species is there armed. He informed me that the bird was given to him by a sportsman who, while Quail-shooting the day before, had flushed it and another together from a cotton-field. Its companion escaped. Of course, I lost no time in securing the prize for my local collection;

and, with *Chætusia leucura* and *Charadrius longipes,* it forms an interesting trio. On dissection it proved to be a female with the ovary, as might be expected at that season, very small. The spurs were also shorter than I have seen them in specimens from Egypt, where, I am informed by an eye-witness, they have been observed to use them as weapons of offence against other birds, and, doubtless, of defence also. Indeed a pair was once seen near the barrage on the Nile driving away a dog from the vicinity of their nest, making repeated swoops at the intruder, striking at him with their armed wings, and uttering loud cries. It has not been met with in Algeria, nor is it recorded as an inhabitant of Tunis or Tripoli, probably on account of the absence of large rivers in that part of the African continent, as it is evidently a species affecting deltas and fluviatile banks. I should not be surprised, however, to hear of it being met with occasionally on the coast of Barbary, especially now that it has paid Malta a visit.

I need scarcely remind the readers of 'The Ibis' that this bird is a claimant for the distinction of being the *Trochilus* mentioned by Herodotus as "Leech-catcher" to His Majesty the Crocodile on the banks of Father Nile.

266. Actiturus bartramius (Wilson). (Bartram's Sandpiper.)

One of the most interesting captures made in Malta during my researches amongst its bird-fauna took place on the 17th of November, 1865—that of Bartram's Sandpiper. And it is curious that, almost simultaneously with this occurrence, another example of the same species was taken in England, near Falmouth, as announced in 'The Times' of the 14th of November, 1865, by Dr. W. K. Bullmore*. Only two other examples have been met with in England, the particulars of which are given by Yarrell (Br. B. 3rd ed. ii. pp. 633, 634), and two more, according to Temminck (Man. d'Orn. 2nd ed. p. 650), on the Continent, one in Holland, and one in Germany†. Thus *six* have now been obtained in Europe. As is well known, the bird is a very great wanderer, an example having even been captured near Sydney, in New South Wales, according to Mr. Gould (Handb. B. Austral. ii. p. 242).

---

* [*Cf.* 'Zoologist,' S. S. pp. 37–40.—Ed.]

† [The first example taken in England was recorded in the 'Zoologist' (p. 3330), by the late Hugh Reid, without the assignment of any name;

267. CYGNUS OLOR. (Mute Swan.)

On the morning of the 23rd of December, 1865, after several days of boisterous weather, word was brought to me that a flock of large birds had settled in Sliema Creek. One report made them out to be Geese, another Pelicans. They turned out to be Swans, a most unusual apparition in these islands. There could be no doubt of this. A glance at them as they floated majestically on the water, displaying their gracefully arched necks and pure white bodies in the gleaming sunshine, told at once that they belonged to this noble genus of birds. But what was the species? Were they Whoopers? Or were they the species or variety named after our countryman, dear old Bewick? Or were they Mute Swans?—the so-called "Polish Swan" (*Cygnus immutabilis*) is, I believe, no longer considered to be a good species. My curiosity was not then destined to be satisfied. Alarmed by the approach of a fishing-boat, they spread their broad white wings, and, slowly but steadily working up to windward, were soon out of sight. Disheartened at my lack of success, I returned home, scarcely expecting to meet with them again, although several persons informed me that they had been seen about the creek for two days.

In the afternoon, it being a Saturday, there were the usual amusements going on at Fort Manoel island—a military band playing, pigeon-match, croquet, cricket, and so forth. Of course there were numerous carriages moving about, as well as equestrians and pedestrians, who, in fine weather, are attracted to this spot to witness the sports. Shouldering my gun I also took a stroll

---

but Mr. A. G. More at once, and immediately afterwards Mr. J. H. Gurney (p. 3388), suggested that it was a Bartram's Sandpiper, as further investigation (p. 4254) proved it to be. Prof. Schlegel (Mus. P. B. *Scolopaces*, p. 79) enumerates among the specimens preserved at Leyden two:—"Mâle et femelle, étiquettés par feu Temminck comme ayant été tués en Europe." It does not appear that any have since been recorded in this quarter of the globe.—ED.]

that way. What was my surprise to see, notwithstanding all the noise and bustle around them, my friends the Swans of the morning quietly floating in the middle of the Quarantine Creek (which is scarcely two hundred and fifty yards wide), and seemingly as much at home and unconcerned as any tame Swans could be on the waters of the Serpentine. Much too far to expect any execution from an ordinary gun, my only hope was of their approaching near enough to give me the chance of a fair shot. There they were, ten of them, precisely the same number as had appeared in the morning. They kept pretty close together, but occasionally separated a little, gliding noiselessly on the calm blue water of the creek, and presenting a magnificent picture. Their great size was rendered more conspicuous from the contrast afforded by the proximity of some Crested and Eared Grebes (*Podiceps cristatus* and *P. nigricollis*), which looked mere specks by their side. Several essays, with a regulation Enfield rifle, were made by some persons present, but unsuccessfully. They did not exhibit the least alarm, probably mistaking the splash of the bullets (as a friend of mine once actually did) for leaping fish. Once or twice they came nearer the shore, but they took no notice of a green cartridge and several charges of swan-shot which I fired at them. At length, without ostensible cause, they suddenly rose, and I perceived that they were making straight for the spot where I lay, partially concealed by a heap of stones. My gun was now loaded with No. 5 and No. 9. Aiming under the wing of one of the centre birds, and letting fly the large shot when they were about thirty yards distant, I made sure of bringing him down; but such was not the case. The small shot, which I fired immediately afterwards, however, did the work, and down came splashing into the water one of these splendid creatures, hit in the wing. The flock consisted mostly of old birds; but the one I shot was a bird of the year, wanting the shining white plumage of adult age, the upper surface, as well as the neck and head, being ashy grey mixed with brown. It appeared to possess the black lore that distinguishes the Mute Swan (*Cygnus olor*) from the two other European species, in which this part is yellow at all ages; but of this I could not be quite sure without a closer examination. "There is many a slip between the cup and the lip," and I had to experience the truth of this adage. My Swan had tumbled into Quarantine water! And I had not calculated the immense risk that touching its now contaminated body would, in the opinion at least of the *Guardiano di Sanità*, entail on the health of the population of these islands. I was therefore reluctantly compelled to leave my much-prized specimen to the tender mercies of the health-officers. Of course, nothing more was heard of it. Some sharp fellow had doubtless appreciated Swan's flesh, and carried it off for his Christmas dinner!

In my endeavours to trace the plunderer, anxious to put the question of the species of our visitor beyond doubt, I learnt of a Swan having been killed two days previously, on the 21st of December, at Salini, on the north coast of Malta. It was alone when killed, having probably separated from the main flock. Too late to secure the skin for my collection, the bird having been already plucked and trussed for the spit, it was some satisfaction to ascertain the species, from an examination of the head, which the cook, after a diligent search in the dustbin, presented to me. It confirmed my first impression, and enabled me to record, from personal observation, the Mute Swan (*Cygnus olor*) among our occasional visitors.

I take this opportunity of remarking on a professed list of 'Birds found in Malta,' by Mr. W. Grant, in 1866*, containing some forty or fifty (!!!) names not included in my catalogue of 1864, nor in the appendices which have since appeared in 'The Ibis.' Amongst the novelties are the Grey Partridge (*Perdix cinerea*) and three other Partridges, or *Patridges*, as our author insists upon spelling the word, as likewise *Perdrix* instead of *Perdix*, on the principle, I suppose, of compensation. To these are affixed the letter "R", signifying rare. We also have the Francolin reintroduced, with "R R" attached to it, signifying, we are told, very rare. Very rare, indeed, we should think! *Passer domesticus*, a phantom which we thought had long since been laid (Ibis, 1864, p. 53), is once more resuscitated, the real Sparrow of Malta, as my readers are well aware, being *P. salicicola*, with an admixture perhaps of *P. italiæ*.

---

* [*Cf.* Ibis, 1867, pp. 239, 240.—Ed.]

In support of these forty or fifty alleged discoveries, I believe not one specimen is in the possession of the compiler. It is much to be regretted that so many species should be introduced into the Malta List in this unwarrantable and reckless manner, for, however often these mistakes may be corrected, they are sure to crop up again somewhere. The great absurdity, however, of many of them (especially our friends the Partridges) will, fortunately, serve to put ornithologists on their guard; but the crowd of outsiders are apt to accept statements in natural history blindly; and we may yet hear of some one telling his sporting friends that they may have Partridge-shooting in Malta.

Without enumerating minor errors or sins of omission, the following are the most inexcusable blunders. One of the novel features of the list is, that nearly every species has, somehow or other, got a Maltese name to it—even Bartram's Sandpiper, the Spur-winged Plover and the White-tailed Plover, of which only single specimens (now in my possession) have occurred in Malta, and the Asiatic Golden Plover (*Charadrius longipes*), of which only two specimens have been taken (Ibis, 1865, pp. 462–463), are all enriched with Maltese names. The Buff-backed Heron and the Buff-backed Egret are given as two different species, under the names of *Ardea bubulcus* and *Egretta russata*, with a Maltese name for each! *Tringa canutus* and *Tringa cinerea* are also given as distinct species, with different Maltese names. The Common Pintail Duck is put down as two species, under the names "*Daffila caudacuta*" and *Anas acuta*. The Shoveller is also in like manner multiplied as Red-breasted Shoveller and Common Shoveller. Two species of Petrel are mentioned under the names of *Thalassidroma pelagica* and *T. melitensis*, long since shown to be only one. *Vanellus gregarius* is merely a reproduction of Schembri's mistake, which he himself corrected years ago, this bird never having been taken in Malta. To *Limosa rufa* is attached the letter "C", signifying that it is common, whilst only one authentic specimen has really been observed. *Larus tridactylus*, one of our rarest

Gulls, is, we are informed, common; whilst *L. melanocephalus*, the commonest Gull in the place, seen in flocks of hundreds in our harbours and round the coast in winter and spring, is pronounced to be——rare! Of the Shrike family we receive some equally trustworthy information. *Lanius excubitor* is given us as common, though I know of only one instance of this species, which occurred a quarter of a century ago, and was recorded by Schembri. The same liberality is observed towards *L. meridionalis* and *L. collurio*; whilst the fact is, they are all exceedingly rare and exceptional visitors. Many other erroneous statements are made as to rarity or frequency of different species; but perhaps the readers of 'The Ibis' will think I have said enough in the way of warning.

I must, however, append a list of the most striking of the pretended novelties, in order that they may not be accepted by the unwary until properly vouched for. Some of them will probably turn up some day—perhaps a few have already done so; but until authenticated specimens can be produced, they must in the meanwhile be looked on at least with an eye of suspicion:—

Astur gabar (?). I think it necessary to make a note of this bird. I introduced it into my List with a query, on the authority of Strickland (Orn. Syn. i. p. 112). It is now introduced by our author with no mark of doubt at all, and stated to be a "rare" visitor. Some day, perhaps, we shall be told it is common!!

Aquila maritima.

Buteo vulgaris. This species is given as common!

Bubo maximus.

Perdix francolinus.

Perdix rufa.

Perdix cinerea. The Maltese name given for this species by our author is *Tigiega ta Carthagini*, by which the Sandgrouse are known; and the only authority for the admission of *Perdix cinerea* into the Malta List was, as I have ascertained, a specimen in a druggist's window in Valletta, not, however, of a Partridge, but of a Sandgrouse; and this even was not obtained in Malta, but was brought from Tunis! I may mention here the manifestly absurd assertion of Malherbe (whose statements have more than once been questioned) in his Fauna of Sicily, that *Perdix cinerea* "visits that island every spring and autumn when on its passage from *North Africa* to Italy and back"*. Thanks to the more exact and extended researches of modern naturalists, everybody knows that North Africa is perfectly innocent of this species.

Perdix petrosa (?). This last species has been several times taken; but as it is the custom to import them from Barbary, it is an open question whether those captured here are fugitives or not, as the genus *Perdix* is not famed for its migratory habits †.

Totanus macularius.
Tringa rufescens.
T. maritima.
All these three are favoured with Maltese names, and stated to be common!

Tringa pectoralis also enjoys a Maltese name; but in this instance our author merely states it is "RR", *i. e.* very rare. It must be borne in mind that he has no specimens to show for these or any of the subsequent species here enumerated; and a close observation by myself for the last, I may say, twenty years, aided by the experience of several ornithological friends, has never revealed these wonders to my eyes.

Tringa platyrhyncha.

Tringa schinzi.

Vanellus gregarius. Also favoured with a Maltese name!

Porphyrio hyacinthinus. This bird is sometimes kept in a domesticated state for ornament; and to the circumstance of an escaped captive is probably owing its introduction into the Bird-fauna of Malta. It is of such well-known sedentary habits that, even if one were actually taken here, a searching inquiry would be requisite before accepting it; nevertheless we find attached to it a vernacular name, and a very inappropriate one too.

---

* [We have been unable to find this sentence in the 'Faune Ornithologique de la Sicile.' What Malherbe says (p. 154) is "Cette perdrix si commune en France paraît n'être que de passage en Sicile ainsi qu'en Egypte et sur les côtes de Barbarie," which is perhaps more erroneous. —Ed.]

† [*P. rufa*, however, decidedly has migrant inclinations.—See Mr. Stevenson's 'Birds of Norfolk' (i. pp. 413–416).—Ed.]

As evidence, on the other hand, that this sedentary bird may occasionally take long flights from its native marshes and rice-fields of South Europe and Northern Africa, I remember reading in the English newspapers a few years ago that at a meeting of the Natural History Society of Glasgow, Dr. Dewar exhibited, amongst other rare birds collected in the month of January 1864, in various localities in the *west of Scotland,* a Purple Gallinule (*Porphyrio hyacinthinus*) from the neighbourhood of Campbeltown; and it was said that it bore no traces of having been in confinement. What will ornithologists say to this*? Malta is a far more likely locality for a straggler of this species to turn up in, it being plentiful in the marshes of Syracuse on the one side, and of Tunis on the other. But whatever may be the fact, there is not, I believe, in the possession of anybody here an authenticated specimen to attest its claims for admission, even as an accidental visitor, into the Maltese *Ornis.*

I had written this when a few days ago I observed in the Malta University Museum two freshly-stuffed specimens of *Porphyrio hyacinthinus,* which I was informed had just been captured here. Somewhat staggered, but not altogether satisfied, I instituted inquiries amongst the dealers, and ascertained that the two birds claimed as Maltese belonged to a parcel of six that had been brought over by a seaman from Syracuse!

Cuvier states, upon what grounds I know not, that this species is originally African, and has been naturalized in Europe on account of its beauty †.

Anser brachyrhynchus. Possibly copied from my first list, into which it was erroneously admitted, and subsequently struck out.

Fuligula gesneri. Said to be common!

Clangula histrionica!!

---

* [We have met with several statements of this kind, but it has never been satisfactorily shown that the birds in question had not escaped from confinement.—Ed.]

† [It was figured by Gesner, from a drawing sent to him from Montpellier (Hist. Anim. iii. p. 776).—Ed.]

Mergus merganser. One of the species doubtfully allowed into my List in Italian, published in 1862, and afterwards omitted for want of satisfactory proof. But our author admits it without any sign of hesitation.

Pelecanus orientalis (Dalmatian Pelican).

Sterna stolida ! !

Larus atricilla. Said by our author to be common. It is not impossible that this American Gull may occasionally find its way here; but that it is common, no one will readily believe. My friend Mr. Howard Saunders informs me that it has been obtained near Palermo, and specimens were pointed out to him in the Museum there by Prof. Doderlein.

Sylvia erythrogastra.
Sylvia cairii.
Sylvia sarda.
Sylvia olivetorum.
All said to be common!

Sylvia hypolais. It is strange that this bird has never come into my hands. I have frequently met with *S. icterina*, with which it is often confounded, but never with the other. I am in hopes of finding it some day amongst our visitors.

Sylvia elaica.

Sylvia cettii.

Sylvia locustella.

Troglodytes europæus (?). Rumours of this, or an allied species, having been seen in Malta have reached me; but I have never been able to view a specimen. Our author admits it without any doubt.

Saxicola saltatrix. I examined the specimen which was probably the authority for this species. It was certainly not *S. saltatrix*, and I said so at the time. It was a sand-coloured species, and *very small*, and appeared to be in immature plumage. Our author, nevertheless, coolly informs us that this bird is common.

Saxicola leucomela. We are seriously told to believe that this species is also common in Malta!

Motacilla citreola. This is a species from Eastern Russia, and not at all likely to be found here; yet we are told this, too, is common!

Corvus corax.

Linaria montana. We are told it is common!

Passer domesticus. Already mentioned above, but an error that cannot be too often pointed out.

Emberiza citrinella. This is the last species I shall quote as an egregious blunder. We are not only told that it is found here, but that it is common too!

I have gone to greater length in reviewing this list than I at first intended. To find fault is never an agreeable task; but as it has been noticed in 'The Ibis,' and, in a few lines of introduction, the author promises us a "more extensive work" on the subject, it seems advisable, though the said work may never see the light, to say as much as I have in the interest of ornithological truth and propriety.

Malta, March 1869.

XXIII.—*Researches into the Zoological Affinities of the Bird recently described by* Herr von Frauenfeld *under the name of* Aphanapteryx imperialis. By ALPHONSE MILNE-EDWARDS.

(Plate VII.*)

HERR GEORG VON FRAUENFELD has lately published two figures of birds from a collection of paintings on vellum preserved in the library founded by the Emperor Francis I.†

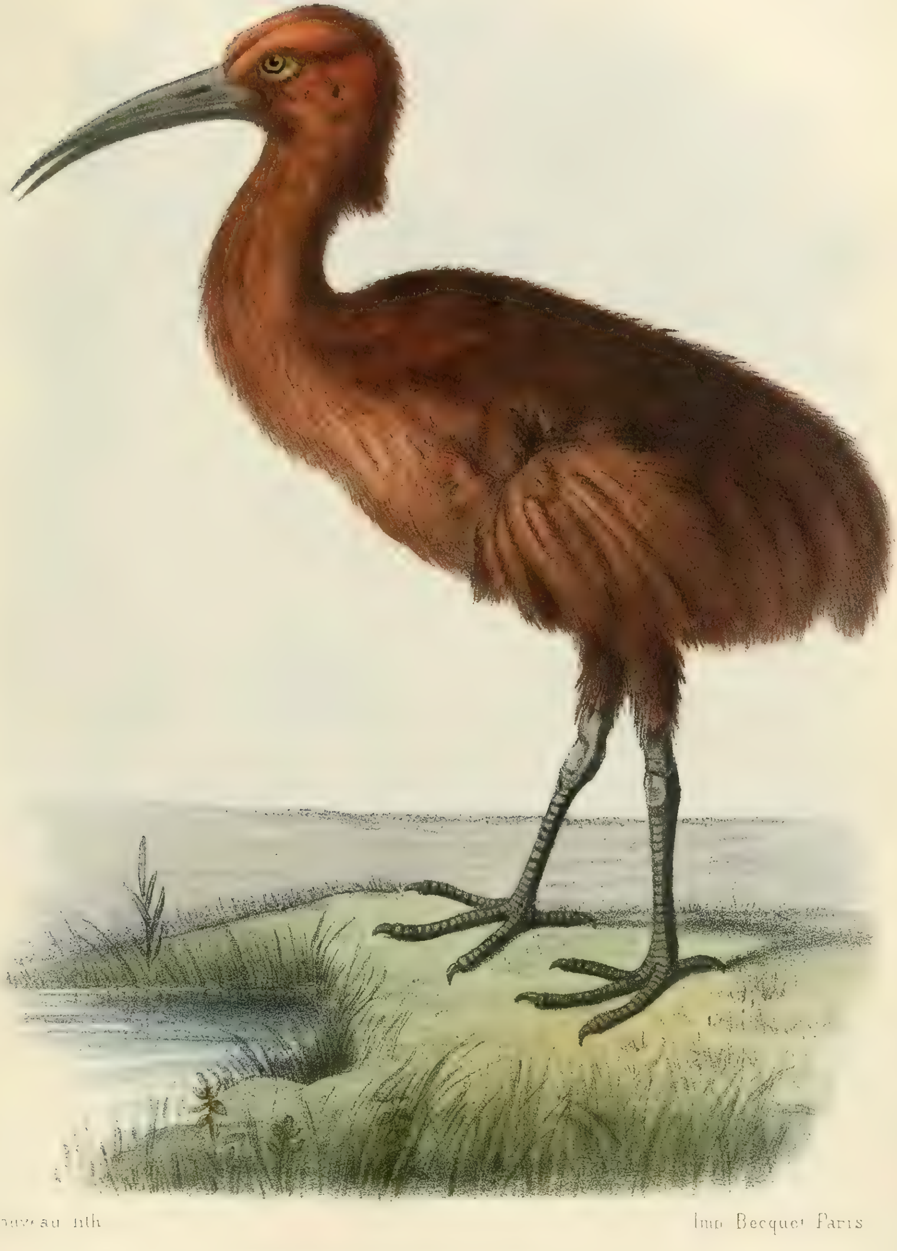
The first of these birds is a Dodo, of which the whole body is of a uniform brownish-grey, mixed with some blue reflections. Its body is much smaller than that of the birds represented in the pictures of the two painters Savary; and the beak, compared with the head, is much less stout. These facts incline me to think that the painting has been made from a young animal.

The second figure (Pl. VII.) represents a bird altogether un-

---

* [We have to acknowledge the kindness of M. Alphonse Milne-Edwards in placing at our disposal impressions of this plate, which illustrates his paper on the same subject in the 'Annales des Sciences Naturelles' 5^{e} sér. x. pp. 325–346). It is a very faithful representation on a reduced scale of the original.—ED.]

† [*Cf.* Ibis, 1868, pp. 480–482.—ED.]



Jouveau lith

Imp Becquet Paris

APHANAPTERYX BRŒCKII

known to zoologists, and remarkable for its long, pointed and slightly decurved bill, the reddish colour and silky appearance (resembling that of an *Apteryx*) of its plumage, the almost entire absence of wings, and its stout feet, furnished with four toes, of which the hind toes are well developed, and rest in a great degree on the ground.

This figure is the *thirty-second* of the second volume of paintings. It is immediately preceded by that of the Dodo and one of a Cassowary, and is followed by one of a Flamingo. The only date which can be found in the collection is that of the year 1610; and the Cassowary which is represented was brought from Java by the Dutch in 1597, and given to the Emperor Rudolf II. by the Archbishop of Cologne. There is therefore every reason to believe that these birds were living at the same time in the Imperial Menagerie, which this Emperor and his father Maximilian II. kept from 1545 to 1618, in the neighbourhood of the castle of Elbersdorf, about a league to the eastward of Vienna. The Dodo, which was drawn upon vellum, was perhaps that which, according to De Bry, was brought from Mauritius to Europe by the Dutch in 1599.

Among the explorers who visited the Mascarene Islands about this time, there are some who speak of certain birds of which at the present day we have no knowledge. Thus Pieter van den Broecke*, in the account of his voyage to Mauritius in 1617, figures, by the side of the Dodo, another bird (fig. 1), with a rounded body, without wings, and with a long, pointed and decurved bill. No description agrees with this figure, which Strickland has reproduced ('The Dodo,' &c., p. 19†), only remarking of it upon the resemblance it bears to an *Apteryx*.

In 1638, François Cauche ‡ tells us that there were in Mauritius "des poules rouges, au bec de Bécasse; pour les prendre il ne faut que leur présenter une pièce de drap rouge, elles suivent, et se laissent prendre à la main: elles sont de la grosseur de nos poules, excellentes à manger."

---

* XXVjaarige reyse-beschryving naer Africa en Oost-Indien. 8vo, Lewarden: 1617. "Beginende Voortgangh der Vereen. Nederl. geoctr. Oost-Ind. Compagnie," vol. 2, no. xvi. p. 102, pl. 7.

† [We are much indebted to Mrs. H. E. Strickland for her liberality in lending to this Journal the wood-blocks representing in *fac-simile* this figure and that given by Herbert (to be mentioned presently), which appeared in her late lamented husband's admirable monograph.—Ed.]

‡ Relations véritables et curieuses de l'Isle de Madagascar. 4to, Paris: 1651, p. 132.

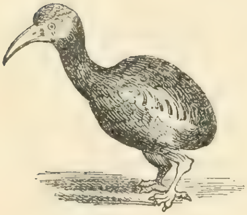


Fig. 1.

A Hen

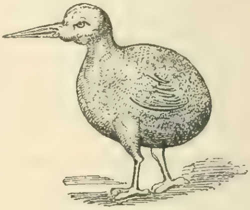


Fig. 2.

Johann Christian Hoffmann[*], who lived in Mauritius, as a preacher, from the 13th of February 1673 to the 17th of March 1675, tells us that there existed then some red birds of a singular form, and the size of a common fowl, called *Todaersen*, which, though deprived of the power of flight, ran very quickly, so that to catch them "a rod is taken in the right hand, and the left is wrapt in a piece of red stuff, which is thus shown to the birds, commonly assembled in numerous flocks. Whether the red colour terrifies these stupid birds, or whether it attracts them, they approach the fowler almost without fear, and he, when they are at a convenient distance, strikes and seizes one. The cries which the captive utters attract its companions, who seek to deliver it, and thus all become the prey of the fowler"[†].

It is evident that this passage refers to the *Poules rouges* of Cauche. Hoffmann designates them wrongly under the name of *Todaersen*, which has been often applied to the Dodo; but it is probable that, in 1673, this had already disappeared from Mauritius, where it had become so rare that the author just mentioned had never seen one.

It is impossible not to recognize the similarity between the flightless "red fowls" of which Cauche and Hoffmann speak, and the bird which has been found figured in the collection of paintings on vellum in the private library of the Emperor of Austria. These paintings are, for the most part, the work of the same artist; some have evidently been executed from living subjects, others from stuffed animals; and some, indeed, are the result of the painter's imagination. It is thought they are from the pencil of the celebrated Dutch miniature-painter George Hoefnagel, who was born at Amsterdam in 1545 or 1546, and died between 1608 and 1617, and was attached to the court of Rudolf II. as "peintre du cabinet." The attitude of the bird in question is so natural, that it is allowable to suppose that it has been drawn from the life, in addition to which, the feathers which correspond to the base of the wing seem to be somewhat in disorder. This bird presents the essential characters assigned by Cauche to his *Poules rouges.* It has the same coloration, the same form of the bill, and we also find in it the structure of the feathers indicated by Hoffmann. Herr von Frauenfeld does not hesitate to establish this relation, and gives his work the title of a "Newly-found figure of the Dodo, and of a second short-winged Bird, the *Poule rouge au bec de Bécasse.*" This bird is so remarkable, and offers characters so special, that it is easy to distinguish it by means even of a very succinct description. The painting which now exists, and has been very skilfully reproduced in chromolithography, at the cost of the Zoologico-botanical Society of Vienna, makes known to us most of the external characters of this new Mauritian bird. The bill is black, very pointed, and regularly decurved; it is very nearly twice as long as the cranium. The upper mandible is rounded above; and near the base is seen the opening of the nostril, which is small and very narrow. The eye, of which the iris is yellowish, is situated far forwards; behind and lower down, the mark of the auditory foramen is perceptible. The plumage, of a uniform reddish hue, has no consistency; the feathers, like those of the *Apteryx,* have a simple shaft, and the barbs and barbules are long, soft, and do not adhere to each other; those of the hind part of the flanks are the most developed. The neck is pretty long, and clothed on the nape with overhanging feathers, so as to form a sort of cervical crest. No indication of wings is to be seen. The tail is rudimentary, and formed of short, soft, and drooping feathers. The feet are somewhat long, and very strong. The feathers of the legs stop short at some distance from the heel, so that the lower extremity of the tibia is bare. The foot is covered with broad scutellations; the toes, four in number, are cylindrical, and have no interdigital membranes, even at their base. The hallux, as I have already said, is well developed, and rests in a great degree on the ground.

---

[*] Oost-Indianische Voyage, u. s. w. 8vo, Cassel: 1680, p. 52. [*Cf.* Ibis, 1868, pp. 479, 480.—Ed.]

[†] 'Leopoldina,' 1868, p. 52.

The zoological position which this bird should occupy was very difficult to determine; and Herr von Frauenfeld, after having compared it with the *Brevipennes*, the *Gallinaceæ*, and the *Rallidæ*, arrives at the conclusion that it unites the plumage and the imperfect wing of the *Apteryx*, the carriage and the bill of the Rails, with the feet of the *Gallinaceæ*.

It is plain that, from an inspection alone of a coloured drawing, the systematic position of the *Poule rouge au bec de Bécasse* could not be determined with greater precision; and this question would have been the object of discussions similar to those which have taken place of late years with regard to the Dodo, were it not that particular circumstances allow me to complete now the history of this unexpected discovery, and to determine the place which the *Poule rouge* should hold in the ornithological scale. Among the remains collected with those of the Dodo from the Mare aux Songes, in Mauritius, and submitted to my examination by Mr. Edward Newton, are some bones of the foot, which appeared to me most interesting, seeing that they showed the existence of a new form allied to *Ocydromus*, but more of a runner than that bird.

I had also remarked a long and curved lower mandible, which seemed to come from a bird having certain resemblances to the *Rallidæ*, or from an entirely unknown Wader; but I hesitated much about referring it to the same bird as the leg-bones. I was employed in describing them when Count Marschall informed me of the discovery which had just been made in the Emperor's private library; and, with his kindness, so well known by all men of science, he sent me first an extract from Herr von Frauenfeld's work, and then the publication itself. I immediately recognized the remains of which I have just been speaking, as belonging to the species represented along with the Dodo, and I felt certain that this very singular bill, and the leg-bones, came from the same bird.

The lower mandible (figs. 3 & 4) found in Mauritius is nearly

Fig. 3.

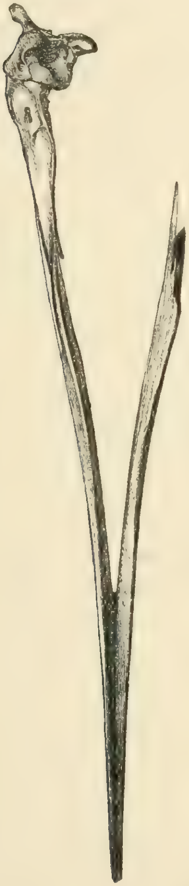


Fig. 4.

perfect, wanting only one of the articular extremities. Throughout the portion corresponding to the dentary bone, it is gently decurved in a regular manner, so that its lower edge follows almost exactly the arc of a circle, having a radius of $0^{\mathrm{m}}{\cdot}11$. In the Curlews and Ibises the curvature is less regular, and betrays itself especially in the terminal portion. In *Apteryx* the mandible is much straighter. The two branches, but little separated from each other at the articular portion, unite at a great distance from their extremity and coalesce intimately, so as to give the whole terminal portion of the bill great firmness. The lower surface exhibits no trace of the original separation of the dentary bones. It is rounded, and presents no such groove as that which occupies the median line in the Ibises, and of which traces are still perceptible in *Apteryx*. The bony tissue in this portion is extremely close and strong; it is only pierced by a few orifices, and presents nothing to be compared to the sponginess (so to speak) of the tip of the bill in the Godwits, the Woodcocks, the Curlews, *Apteryx*, and others—a structure which relates to the number of nerves and vessels meeting in this part, and to which these birds owe the exquisite sense of touch, enabling them to seek the worms which are hidden in the earth and mud. This fossil bill was evidently not adapted for such a diet, for it terminates in a sharp and strong point. Behind the posterior branches of the dentary there is a narrow but somewhat long fissure, indicating the original separation of the dentary from the angular and the surangular. The position of this fissure, placed obliquely from above downwards and from before backwards, furnishes us with some rather important characters; in fact, this fissure, which I have called the "post-dentary orifice or fissure," is wanting in certain families, such as the diurnal birds of prey. In the *Passeres*, properly so called, it exists, but presents a peculiar form, very distinct from that which I have just mentioned; it resembles, indeed, an ovate fenestra, while in our fossil it is a real cleft left between the different bones above named. The *Passeres* which have the bill much curved, such as *Promerops, Xiphorhynchus, Falculia, Dendrocolaptes, Fregilus* and so forth, present in this respect exactly the same characters as those with a straight bill. In the *Gallinaceæ* very considerable variation may herein be noticed: thus, while in *Pavo* the postdentary orifice is almost entirely effaced, it is enormous in the Grouse, and especially in *Tetrao urogallus*, where it is placed forwards at a very great distance from the articular surface. In the *Scolopacidæ* and *Charadriidæ*, the postdentary cleft has a greater resemblance to that of our fossil, but it is placed less obliquely; and to find a more perfect likeness this last must be compared with the bill of certain of the *Rallidæ*, and more especially with *Ocydromus*. The masseterian portion of these birds is narrower; and this also has reference to the greater shortness of the bill, which requires less powerful muscles for its movements, and consequently less extended insertional surfaces. The upper edge of this surface corresponding to the surangular, whereto the fibres of the temporal muscle are attached, is much elevated; however, it does not appear to possess at this point ossified tendons such as those of *Porphyrio*. Behind the masseterian surface, and in front of the articulation, there is a rounded and open vascular foramen.

The articular surface is broad, but not much elevated. It consists, as usual, of two facets, of which the outer one, intended to be applied to the jugal extremity of the quadrate, is placed obliquely from without inwards. It is comparatively much more developed than in the Curlews, the Ibises, and most other Waders, and in this respect resembles that of *Porphyrio* and *Ocydromus*. The inner facet, which articulates with the pterygoidian portion of the quadrate, is subquadrilateral, and very much enlarged from before backwards. In the *Scolopacidæ* and *Charadriidæ* it is narrow, and turned towards the inner articular apophysis. The shape of these facets is somewhat worthy of consideration; for it gives an idea of that of the quadrate, the importance of which will not be disputed.

The postarticular apophysis is strong, moderately projecting, and turned outwards. It is continued downwards with a very thin ridge, which there has reference to another lower articular apophysis. Lastly, there is an inner articular apophysis, strong, but placed a little in advance, a situation the like of which is not to be seen in any other bird. In the great group of *Passeres*, there is a postarticular apophysis, but it is short, and resembles a tubercle; the inner apophysis, on the contrary, is very long, but there is no lower bony prolongation corresponding to the angle of the jaw, so that the articular extremity is extremely flattened. As much may be said of the *Gallinaceæ*, wherein it may be seen in the development of the inner and lower articular apophyses, these last, in *Tetrao urogallus,* rising to a great height behind the cranium.

In the genus *Ibis,* there is no lower bony projection, besides which, the hinder surface is deeply depressed, so as to give it a very peculiar appearance. The Curlews are equally destitute of a lower articular apophysis.

The whole arrangement of the apophysis in our fossil much recalls that which is proper to the *Rallidæ,* and, in that family, attains its maximum of development in *Ocydromus,* of which it may be said with certainty that, of all the representatives of the class of birds, it most approaches that of the very remarkable bill found in Mauritius, where we find again a strong and short inner apophysis, prolonged into a ridge as far as the lower bony projection. This is clearly marked, though a little more weakly than in our fossil.

In the Coots, the articulation is arranged very nearly in the same manner. Among the Gallinules (*Tribonyx* and *Porphyrio*) the lower apophysis projects less. In this respect *Apteryx* differs much from our fossil; for in the first the post-articular apophysis is rudimentary and the lower angle is rounded.

If, according to the structure of the bill, we endeavour to give an account of the habits and the food of the bird to which it belongs, we shall see that the absence, or at least the little development of the foramina, and of the channels giving passage to the nerves and vessels, will not allow us to attribute to it the manners of the Ibises, Curlews, Godwits, or Woodcocks. This pointed bill has a very close tissue, and somewhat resembles that of *Porphyrio* and *Ocydromus,* recalling still more the form of the mandibles in the Oyster-catchers, and apparently adapted for crushing mollusks and their shells, animals on which this bird probably fed.

A glance at the bone of the foot (figs. 5, 6) is sufficient to convince one that it belonged to a bird admirably adapted for walking. It is perfectly balanced; without being too massive, it is very stout; the diaphysis is nearly as thick as broad, its angles are rounded, and the anterior metatarsal furrow is but slightly marked in its upper portion, while it is completely effaced below; none of the projecting lines which bound the insertional surfaces of the extensor muscle of the hallux, of the abductor of the inner toe, and of the adductor of the outer toe, are to be seen. The tibial impressions are unequal, the inner one being more elevated and much stronger than the outer; they are surmounted by a slightly deep impression, at the bottom of which open the superior orifices, the outer one being placed much higher than the inner. Within there is seen, bounded by two little ridges, a furrow, which lodges the tendons of the common exterior muscles of the toes. The posterior surface of the bone of the foot is rounded, and traversed longitudinally by clearly defined intermuscular lines. The surface of the attachment of the flexor muscle of the hallux is but little marked.

Fig. 5.

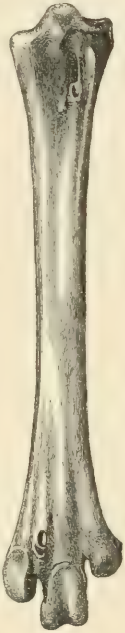
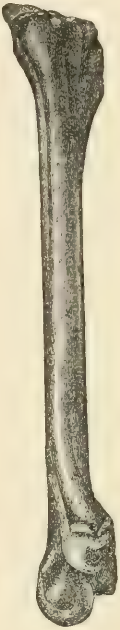


Fig. 6.



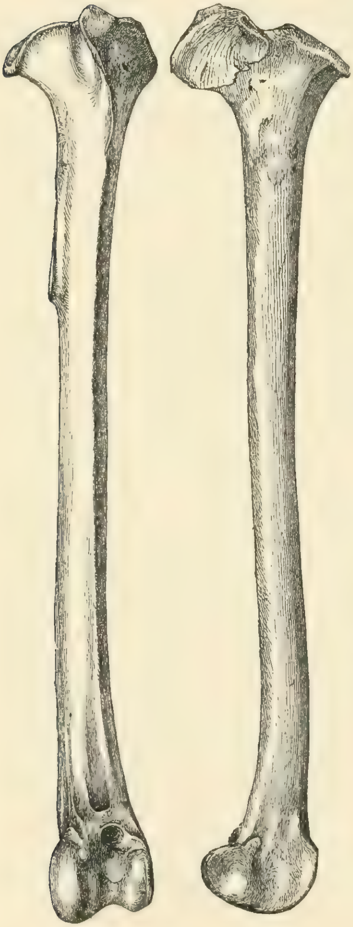
The upper articular extremity is somewhat narrow; and the glenoid facets are placed at different levels, that of the inside being higher than that of the opposite. They are separated by a strong intercondylian tuberosity, at the base of which a somewhat deep depression (whereto the semilunar ligament is attached) is seen on the outside. The heel is partly broken; however, it may be seen that it was but slightly projecting, and that it was only grooved inside by very superficial furrows. The digital trochleæ are strong and placed at different levels. The median is the longest, and is broad, much arched, and hollowed by a deep groove; a very open slope separates it from the outer trochlea, which is much shorter and very broad. The inner trochlea is the smallest, and terminates on a level with the base of the middle one; it is much thrown back. The depth of the depressions hollowed out on the lateral surfaces of the trochlea shows that the toes must have been very firmly attached to the bone of the foot. The articular facet of the hind toe is large and depressed, so that the lower orifice, through which passes the tendon of the adductor muscle of the outer toe, is large; but it is only continued on the body of the bone by a furrow, which is scarcely visible.

The characters I have just described show in the clearest manner that the bone in question cannot come from a bird of prey, nor from one of the *Passeres*, nor from a web-footed bird. It must have belonged to a walking bird; and, from its general form, as well as from many of its characters, it resembles that of the *Gallinaceæ*. Still it is impossible to refer it to this last group. In fact, among all the *Gallinaceæ*, without exception, the flexor muscle of the hallux is attached to a deeply hollowed surface on the inner posterior side of the heel, and is bounded by very prominent ridges. This character, as I have already said, is wanting in the tarso-metatarsus recovered from the Mare aux Songes. The digital trochleæ of the *Gallinaceæ* are always much shorter, and that of the inner toe is prolonged a little lower than in this last. Lastly I will add that in nearly all the birds of this group, even in many that are deprived of spurs, there is always a ridge or a bony stay uniting the inner posterior ridge of the bone to the heel.

If we compare the fossil metatarsus with that of the Waders, we see that its relative proportions, as well as its anatomical peculiarities, remove it from that of the *Ciconiidæ*, *Gruidæ*, *Ardeidæ*, *Scolopacidæ* and *Charadriidæ*, and Bustards. But we find in it great analogies with that of certain members of the family *Rallidæ*, although it differs much from the normal form of that group. In these birds, indeed, the digital trochleæ are very close to each other, and the lower extremity is consequently narrow, whereas in our fossil the contrary arrangement is observable. The foot of *Porphyrio* is distinguished, not only by this character, but also by the depth of the anterior metatarsal furrow, and by that of the insertional surface of the flexor muscle of the hallux. This peculiarity is not to be found in the Rails, the Water-hens, the Jacanas, or *Tribonyx*; but the bone of the tarso-metatarsus is always to be recognized by the little interval which separates the trochlea of the middle from that of the inner toe. It may be remarked, however, that this interval increases as the birds are better adapted for walking and running. Thus the interdigital slope is broader in the Rails than in the Coots; it disappears more in the genus *Tribonyx*, and especially in *Ocydromus*. Following step by step its modifications, we pass insensibly from the normal form, which is presented to us in the tarso-metatarsus of the Rails, to a form which at first sight would appear to be altogether different, and is, so to speak, much more of a walker. The fossil we are examining furnishes us, in some respects, with an exaggeration of it; for it is evidently better adapted for terrestrial locomotion than that of *Ocydromus*, and even offers some resemblance to that of *Apteryx*. In *Ocydromus* the anterior metatarsal furrow is deeper than in our fossil; the tendon of the common extensor of the toes passes under a bony bridge; the heel is hollowed inside by two pretty deep tendinal grooves: but the general plan is the same; and it may be conceived that if the modifications which we have just followed act always in the same sense, they lead to the form which we find in the bone found in Mauritius. There is, still, an enormous difference between the fossil and the tarso-metatarsus of *Apteryx*; but it can, however, be considered to be a transition between this last and the normal *Rallidæ*; for what are the anatomical modifications which this bone presents in *Apteryx*? The shaft of the bone is seen to be much shortened and widened; the intermuscular lines are effaced; the digital trochleæ, hardly disposed according to the same plan, and separated by very broad slopes, are stout and rounded. The heel is but slightly prominent, and shows no tubular canal; it is hollowed by two wide furrows, between which is a somewhat projecting ridge. These peculiarities are of the kind which are offered by our fossil compared with the tarso-metatarsus of *Ocydromus*, or this last compared with its homologue in the Rails or the Water-hens. The examination of the osteological characters leads us to think that the bird from which the fossil in question came presented undeniable analogies with the Rails.

In the same deposit with this lower mandible and this tarso-metatarsus, several tibiæ have been found which seem as if they ought to be referred to the same bird; for a study of the peculiarities they offer leads to the same result as the examination which I have just been making of the osteological characters of the bone of the foot.

Figs. 7, 8.



The fossil tibiæ (figs. 7, 8) are remarkable for the want of thickness of the diaphysis compared with the articular extremities; the shaft of the bone is in fact nearly cylindrical, more slender below the peronean ridge than at its lower extremity, and it presents a slight concave curvature inside. The peronean ridge is somewhat strong, and is prolonged to the upper third of the bone. The fibula would seem to have terminated a little below the lower third, as is indicated by the rugosities which exist at this point.

The upper extremity is large and rounded, the anterior tibial ridge advances a good deal and curves outwards; but it is very little elevated above the articular surface. The rotular ridge is but little marked, and the outer tibial ridge is prolonged outwardly in curving round in front of the peronean.

The lower extremity is massive; the two condyles are very unequal, that of the inner side is narrow and advanced, that of the outer is broad and rounded, the groove which separates them is of somewhat great breadth; there are no pits below for lodging the posterior edge of the glenoid facets of the metatarsus, in the way that is seen in many of the Waders. The furrow of the anterior tibial muscle passes under a well-developed bony point; the groove of the short peronean muscle is hardly indicated.

Among the Rails, *Ocydromus* alone offers like peculiarities in the structure of the leg-bone; and there they differ remarkably from the other genera of the same family; for in them the tibia is relatively much more elongated, the articular extremities are more in proportion to the size of the diaphysis and the tibial ridges, and much higher and more prominent. In this respect there are many more differences between the structure of the normal *Rallidæ* and of *Ocydromus* than exist between this last and our fossil. Indeed it is to be remarked that the tibia of *Ocydromus* is comparatively very thick and short, and that its extremities, particularly the upper one, are more swollen than is usual, without, however, being nearly so much so as in our fossil. The osteological peculiarities of the lower extremity are the same, but the diaphysis in *Ocydromus* is less bowed. The tibia of *Apteryx* differs much from that of the Mauritian bird: the direction of the tarsal articulation is quite otherwise; the relative size of the condyle is not the same; the furrow of the anterior tibial muscle does not pass under a bony bridge, and remains uncovered; the anterior tibial ridge is much less prominent, and so forth. There is, however, in the general aspect and the relative proportions of the bone, something which recalls those of the fossil, indicating that, though belonging to a bird of a distinct zoological group, it presents some traces of resemblance to this singular genus of the Brevipennate group.

The proportion in the length of the bone of the foot and of the leg is not the same as in *Ocydromus* or *Apteryx*—the tarso-metatarsus being notably longer, and being equal to two-thirds the length of the tibia. Thus, if the dimensions of the last bone are represented by 100, the length of the tarso-metatarsus would be 67, while in *Ocydromus* it would be only 57·5, and in *Apteryx* 54.

Elsewhere in the family *Rallidæ* these proportions vary within very wide limits, not that one can attach a very great importance to these differences. This may be proved by a glance at the following numbers, which show the proportion of the tarso-metatarsus to the tibia—the length of the latter being taken at 100 :—

Fossil Metatarsus	67
Ocydromus australis	57·5
Tribonyx mortieri	64
Aramides cayennensis	72
Metopidius africanus	71
Porphyrio madagascariensis	68
Rallus crex	64
—— aquaticus	64
Gallinula chloropus	62*
Fulica atra	57

Thus in our fossil bird the proportion of the leg to the foot was nearly the same as in *Porphyrio, Tribonyx,* and the Rails.

To sum up, we see then that the remains the characters of which I have just been examining belong evidently to the bird which Herr von Frauenfeld has recently figured, and that they are sufficient to indicate clearly the systematic position of this remarkable animal. It evidently was one of the family *Rallidæ,* and there is much less difference between it and *Ocydromus* than between this last and the (true) Rails. It constitutes in this group one of the transitional forms so remarkable in the animal kingdom, and should be regarded as a Ralline the organization of which was adapted to an essentially terrestrial existence. The feathers of the wings are too slight and offer far too little resistance to have been of use in flight; and, besides this, the wings themselves are rudimentary. The feet, on the contrary, show considerable strength ; but they are only slightly elevated, and the toes are less elongated than is usual in this family. This last fact gives us reason to think that this species had less aquatic habits than most of the *Rallidæ*. The hind toe, however, is very long, as in birds which haunt muddy places or a soil of little consistency—although in the true Runners it disappears more or less completely, so as to diminish the weight of the arm of the lever formed by the foot. It may be seen by the nature of the feathers that the *Poule rouge* was still more brevipennate than *Notornis*; and it is also probable that the sternum was still less carinate than in that bird*, and that the furcula either did not exist, or was reduced to a styliform state. We may hope that new researches to be made by Mr. Edward Newton in Mauritius will bring to our knowledge some of these interesting portions.

---

* [In M. Milne-Edwards's paper (Ann. Sc. Nat. *ut suprà*) the proportional length in this species is given as "72."—Ed.]

Herr von Frauenfeld has proposed to regard the bird of which we are treating as the type of a new generic division, and gives it the name of *Aphanapteryx imperialis.* Whether this name may be retained, and whether other authors have not spoken of this vanished ornithological form, are questions which we have now to examine. Several naturalists had already tried to interpret zoologically the imperfect descriptions and figures left by travellers who visited the Mascarene Islands towards the end of the sixteenth and in the seventeenth centuries; and each of the birds of which they have been able to suspect the existence had already received at least one peculiar name, even when its zoological relations were altogether unknown. Thus Mons. de Selys-Longchamps has united all these doubtful species in one and the same generic division, to which he has applied the name of *Apterornis*†.

The bird figured by Van den Broecke (fig. 1) is evidently that which Cauche called the *Poule rouge au bec de Bécasse,* and it seems to me that we may identify them with almost absolute certainty with the *Aphanapteryx imperialis.* But ought one on that account to replace this generic name by that of *Apterornis*? I think not; for the celebrated Belgian naturalist has formed this last genus out of very heterogeneous elements, and the characters which he assigns to it are besides vague, and could be applied (as actually is the case) to birds belonging to very different groups.

"The genus *Apterornis,*" says this author, "differs remarkably from the two preceding [*Didus* and *Pezophaps*] by its long bill, somewhat resembling that of the Woodcocks, but larger. This bill in appearance recalls that of *Apteryx.* These birds were mounted on long legs, ran fast, and differed more from the Pigeons than the Dodo and *Pezophaps,* which they otherwise resembled in their wings, unfit for flight, in the want of a tail, or having only a rudimentary one, and in the number and disposition of their toes."

---

* Prof. Owen has given a figure of this in his 'Anatomy of Vertebrates' (vol. ii. p. 21).

† [Revue Zoologique, 1848, p. 293.—TRANSL.].

As type of the genus M. de Selys-Longchamps gives *Apterornis solitaria*—that is to say, the Solitaire of Réunion, of which we have no remains. Indeed we only know it by the accounts of some travellers, and especially of Carré and Dubois*. This bird, whose plumage was white or tinged with yellow, may be perhaps the white Dodo, represented in a picture exhibited to the Zoological Society of London, and reproduced in a memoir on the subject published in its 'Transactions' [Vol. vi. pp. 373–376, pl. 62].

The second species of *Apterornis* of M. de Selys, which he calls *A. cærulescens,* is nothing else than the *Oiseau bleu* of which Dubois gives us some particulars which I here quote :—"*Oyseaux bleus,* as large as the Solitaires, have their plumage all blue, their bill and feet red, and in form like those of fowls. They do not fly, but they run so quickly that a dog can hardly catch them in a course. They are very good."

The blue colour of the plumage, the hue of the feet and the bill, and the rapidity with which they run would seem to indicate well a bird belonging to the group *Porphyrio.* Strickland had fully seized this idea when he said, "I should have been disposed to refer the 'Oiseau bleu' to the genus *Porphyrio,* were we not told that they were the size of the Solitaire, i. e., of a large Goose, that the feet resembled those of a hen, and that they never fly." ['The Dodo', &c. p. 59.]

---

* [In a note appended to a translation of Prof. Schlegel's paper "On some Extinct Gigantic Birds of the Mascarene Islands" (Ibis, 1866, pp. 146–168), which was contained in the 'Annales des Sciences Naturelles—Zoologie' for 1866 (5th ser. tom. vi. pp. 25–49), M. A. Milne-Edwards mentioned that the MS. journal of the "Sieur D. B.", in the possession of the Zoological Society, had been published at Paris in 1674, and that the author's name was Du Bois. We have lately learnt that this fact was pointed out seventeen years ago by Mr. Pinkerton in 'Notes and Queries' (1st ser. vol. vi. p. 83, July 25, 1852); and this gentleman has been kind enough to inform us that there is a copy of the work in the British Museum ("King's Library, no. 279, *b*, 31").—Ed.].

When Strickland wrote these lines, nothing was known of the *Notornis* (discovered in 1850), in which nearly all these characters are found. But when, later, Prof. Schlegel* sought to determine zoologically the former birds of the Mascarene Islands, he ranked this species in the genus *Notornis*. It seems to me that the *Oiseau bleu* cannot belong to any other group than *Porphyrio*; but, on the other hand, it seems to me very difficult to establish genera and species solely on the narratives of travellers, who for the most part attaching only a very secondary importance to questions of natural history, could not have observed very attentively the characters of species, and have given an account of them in an approximate manner. Thus all the discussions which have been raised with respect to the zoological place of the *Oiseau bleu* have been based on the description of Dubois; but was this accurate? We may doubt about it, because in a letter written by Brown, a Jesuit Missionary, and published in 1724, in the 'Lettres Édifiantes'†, we find the following passage:—

"Vers l'est de cette Isle, il y a une petite plaine au haut d'une montagne, qu'on appelle la plaine des *Coffres*, où l'on trouve un gros oiseau bleu dont la couleur est fort éclatante. Il ressemble à un pigeon ramier; il vole rarement, toujours en rasant la terre, mais il marche avec une vîtesse surprenante; les habitans ne lui ont point encore donné d'autre nom que celui d'oiseau bleu; sa chair est assez bonne et se conserve longtemps"‡.

According to this author, not only was the *Oiseau bleu* only of the size of a Wood-Pigeon, but it was able to fly. It is difficult, not to say impossible, in this case to say on which side the truth lies, and in which of the accounts the most confidence should be placed. I have given this example to show what sort of reserve ought to be maintained when it is a question of making use, for the study of species, of the curt descriptions given by travellers in the sixteenth and seventeenth centuries. But whether the *Oiseau bleu* was a *Porphyrio* * or a *Notornis* matters little to the question of which we are treating here. It is any how plain that it belongs to quite another genus from the Solitaire [of Réunion]; and if one regards this last as the type of the genus, it should be distinguished from the *Apterornis cærulescens.*

---

* [Versl. en Mededeel. K. Ak. Wetensch. Natuurk., vii. p. 116 *et seq.* Translated, Ibis, 1866, pp. 146-168.—Ed.].

† Lettres édifiantes et curieuses, écrites des Missions étrangeres. Nouvelle édition. Paris: 1781. Mémoires des Indes, tom. xiii. p. 313.

‡ [*Cf.* 'The History of Mauritius,' &c., by Charles Grant. London: 1801, p. 167; the passage quoted by Strickland 'The Dodo,' &c., p. 60. —Ed.].

The *Apterornis bonasia,* which forms the third representative of the *Apterornis* of M. de Selys-Longchamps, is still more difficult to determine exactly; for several species are found to be united under this one name. Thus this specific type would include:—

First, the "Hen" of which Sir Thomas Herbert has left a very imperfect figure (fig. 2), wherein the bill is long, straight, and pointed, instead of being curved like that of *Aphanapteryx.* There is no vestige of a tail, but it seems to have had extremely short wings. This is the bird to which Prof. Schlegel has assigned the name of *Didus herberti.*

Secondly, The *Poule rouge au bec de Bécasse* of Cauche.

Thirdly, The *Gelinottes,* which inhabited Rodriguez at the time when Leguat lived there. These are distinguished clearly from the preceding by their light grey colour, and by the form of their bill, which was straight, pointed, and red.

Lastly, M. de Selys-Longchamps finishes the passage relating to his *Apterornis bonasia* by quoting the figure given in Van den Broecke's voyage (fig. 1).

Accordingly *Apterornis bonasia* includes at least three distinct species, among which is to be found the *Aphanapteryx* of Herr von Frauenfeld; but for this bird that specific name cannot be adopted, because it ought to be applied to the first species of which M. de Selys-Longchamps speaks—that is to say, to that of which Herbert has left a coarse figure (fig. 2), and of which the chief characteristic is a straight and pointed bill.

---

* [It has already been suggested (Maillard, Notes sur l'île de la Réunion, Paris, 1862, p. 159, and P. Z. S. 1865, p. 836), that this "Oiseau bleu" was *P. madagascariensis.*—Ed.]

Consequently, if the Solitaire of Bourbon (Réunion), and the *Didus herberti* of Schlegel be left in the genus *Apterornis,* the *Oiseau bleu* as well as the *Poule rouge au bec de Bécasse* of Cauche should be separated from it, and the *generic* name of *Aphanapteryx,* proposed by Herr von Frauenfeld, ought to be kept for the last species. But, on the other hand, it is plain that *Aphanapteryx imperialis* (Plate VII.) is nothing else than the bird figured in Van den Broecke's voyage (fig. 1), to which Prof. Schlegel has given the name *Didus broeckii*; and this cannot give rise to any contradiction, since the learned Director of the Museum at Leyden has distinguished this species from those which had a straight instead of a curved bill. The *specific* designation proposed by Prof. Schlegel ought then, according to the law of priority, to take the place of that which has been more recently given, and *Aphanapteryx imperialis* should bear the name of APHANAPTERYX BROECKII.

This bird, by the side of *Ocydromus,* holds the place which that occupies by the side of the Rails; and these relations are of the same nature as those which exist between *Porphyrio* and *Notornis*; and it belongs undoubtedly to the family *Rallidæ* —conclusions which the study of its external characters would not have allowed to be established.

EXPLANATION OF THE WOODCUTS.

Fig. 1, p. 258, a copy in *fac-simile* of Van den Broecke's figure.
2, „ „ „ Herbert's figure.
3, p. 261, lower mandible from Mauritius, upper view.
4, „ „ „ „ side view.
5, p. 265, tarso-metatarsus from Mauritius, front view.
6, „ „ „ „ outer view.
7, p. 268, tibia from Mauritius, front view.
8, „ „ „ inner view.

XXIV.—*On the Kingfishers of South Africa.*

By R. B. SHARPE.

THE present paper is written chiefly with the view of correcting a few errors which have found a place in Mr. Layard's 'Birds of South Africa.' The different criticisms upon, and reviews of, this work which have appeared have not touched particularly on the synonymy of the South-African Kingfishers; and I therefore beg leave to contribute a few lines on the subject of these interesting birds. It will be, I am sure, the aim of every ornithologist to assist Mr. Layard in making the second edition of his work (which it is to be hoped that the success of the first edition will soon render necessary) as perfect as possible; and as the book gets better and better known, a great many of the mistakes in synonymy, unavoidable chiefly from the small amount of bibliographical material at the author's command, will be set right. I trust therefore that, with this object in view, my paper may prove a not unworthy supplement to Mr. Gurney's excellent commentary, which has already appeared in 'The Ibis;' but I cannot conclude these introductory remarks without expressing my obligations to my friend Dr. Otto Finsch, of Bremen, who has very kindly favoured me with a proof-sheet of the account of the *Alcedinidæ* in the forthcoming work on East-African Ornithology by Dr. Hartlaub and himself; and on his recent visit to England he examined, with me, several difficult questions connected with African Kingfishers, which we now hope to have finally settled. His intimate acquaintance with the Ornithology of the Ethiopian region has been of the utmost service to me.

The numbers prefixed to the names of the species in the present paper are those of Mr. Layard's book, as I have thought it best to refer to the various species in the order employed by him, while I endeavour to correct the mistakes in the observations I make on each bird.

98. HALCYON SENEGALENSIS.

This species has been inserted by Mr. Layard on the authority of specimens procured by Mr. Ayres on the Monocusi River in Natal (Ibis, 1865, p. 265). But as Mr. Gurney has already shown (Ibis, 1868, p. 265), the original notice is not properly referable to *H. senegalensis,* but to *H. cyanoleuca* (Vieill. Nouv. Dict. xix. p. 401, 1818), a species I had the pleasure of rediscovering by means of this very bird, which was kindly lent me by the Rev. H. B. Tristram, to whom Mr. Gurney had given it.

99. HALCYON SENEGALOIDES, A. Smith, S. Afr. Q. Journ. ii. p. 144.

This is also the *Halcyon irrorata* of Reichenbach, a name generally employed by the Continental purists.

100. HALCYON SWAINSONI, A. Smith, S. Afr. Q. Journ. p. 143.

Mr. Layard, having quoted the *Alcedo semicærulea* of Gmelin as a synonym of the present bird, ought certainly to have given that name to the species in preference to Sir Andrew Smith's, which was published fifty years after. Neither is Gmelin (1788) the first authority for the name, as it is the *A. semicærulea* of Forskål (Descr. An. p. 2, 1775).

101. HALCYON FUSCICAPILLA (Lafresn. Mag. de Zool. 1833, pl. 18).

This species is the *Martin-pêcheur de l'isle de Luçon* of Sonnerat (Voy. Nouv. Guin. p. 65, pl. 31) = *Alcedo albiventris* of Scopoli (Flor. et Faun. Insubr. ii. p. 90). There can be no doubt as to the correctness of this identification, for which we are indebted to Professor Schlegel (Mus. P.-B. *Alcedines*, p. 31).

102. HALCYON STRIOLATA (Licht. Verz. Doubl. p. 12).

The South-African race of this species, to which the Natal bird quoted by Mr. Layard on M. Jules Verreaux's authority is doubtless referable, is the *Halcyon damarensis* of Strickland (Contr. Orn. 1852, p. 153), which, however, cannot be considered more than a large race of the West-African form. Mr. J. H. Gurney lately forwarded for my inspection a specimen of this bird which he had received from the district of the river Limpopo, and at the same time he very kindly transmitted a specimen of *H. damarensis* sent by Andersson from Damara Land. After a careful study I came to the conclusion that both these birds were referable to the same species; and as Mr. Gurney has given them to me, I am able to subjoin their measurements, along with those of some other specimens* from various localities.

---

* The first six of these are in my own collection, the seventh in that of Mr. Monteiro.

No.	Sex.	Locality.	Authority.	Long. tot.	Rostri.	Alæ.	Caudæ.	Tarsi.	Dig. med.
1.	♀.	River Limpopo	Ayres	6·7	1·30	3·3	1·9	0·40	0·6
2.	♂.	Damara-land. .	Andersson	6·8	1·10	3·3	1·8	0·35	0·6
3.	♂.	South Africa. .	Verreaux	6·8	1·25	3·2	1·7	0·40	0·6
4.	♂.	Kurrichaine . .	Verreaux	6·7	1·20	3·1	1·6	0·40	0·6
5.	♂.	Abyssinia	Verreaux	6·8	1·10	3·0	1·7	0·40	0·6
6.		Bissao	Verreaux	6·7	1·10	2·9	1·6	0·95	0·6
7.		Angola	Monteiro	6·9	1·30	3·2	1·8	0.40	0·6

Now from the before-mentioned proof-sheet of Drs. Hartlaub and Finsch, I find that their conclusions are the same as my own, namely, that although the South-African birds are larger than those from Western Africa and Abyssinia, still there are no points to justify a specific difference. Mr. Strickland separated the Damara-land bird solely on account of its larger size; but the plumage does not differ from that of specimens from West or South-east Africa. I should mention that Abyssinian specimens, *H. chelicuti* (Stanley), seem always to be fulvous-yellow beneath, and the stripes on the breast more distinct, though smaller. I had always considered the marks on the breast to indicate immaturity; but I have examined a considerable number of specimens from Abyssinia and North-eastern Africa, and they have all been in the above-mentioned state of plumage. It is reasonable to suppose that some at least of these birds were adult, so that I think it probable that the examination of a series of specimens from this locality would tend to prove their specific distinctness from their more southern representatives. If this should prove to be the case, the name *H. chelicutensis* which Drs. Hartlaub and Finsch propose as an improved reading for *H. chelicuti*, should be retained for the North-east African species. The West-African bird may be called either *H. striolata*, (Licht.) or *H. variegata* (Vieill.), both of these names having been published in 1823; and I prefer employing that given by Lichtenstein, as the striped plumage is peculiar to the small section of the genus *Halcyon* including the present species along with *H. albiventris* (Scop.) and *H. orientalis*, Peters. *H. damarensis* should only be considered a larger race of *H. striolata*.

As, however, the evidence of the specific distinctness of the Abyssinian and West-African birds is not yet entirely satisfactory, I prefer uniting them as one species under the oldest name *H. chelicuti.*

103. HALCYON CYANOTIS, Swains. B. W. Afr. ii. p. 103.

This is not a *Halcyon,* but a West-African species of *Ispidina,* viz. *Ispidina picta* (Bodd. 1783), which specific name of course takes precedence over Swainson's, that not having been published till 1837.

Mr. Layard follows the example of other ornithologists in referring "*Alcyone coronata,* Smith," to this species. I have hunted diligently to find where this specific name was published, but have not yet succeeded in discovering it. Sir Andrew Smith never remembers publishing such a name, but has most kindly promised to look into the matter for me. I would suggest, however, that this synonym is intended to refer to *Alcedo quadribrachys,* which Sir Andrew remembers noticing in Natal, as that bird much resembles the Australian *Alcyone* in general appearance.

104. HALCYON CINEREIFRONS (Vieill. N. Dict. xix. p. 403).

This being the *Alcedo malimbica* of Shaw (1811), his specific name should be used instead of Vieillot's (1818). It is indeed quoted by Mr. Layard as referable to the species; but I suppose he had not the works of the two authors at hand to determine the question of priority.

105. ALCEDO SEMITORQUATA, Swains. Zool. Ill. pl. 151.

This species seems to be by no means rare in South Africa, and is also found, but more sparingly, in Abyssinia and West Africa. I have a beautiful pair in my collection from the Orange River.

106. ALCEDO CRISTATA, Linn. S. N. i. p. 178.

Although it seems tolerably certain that the *Ispida philippensis cristata* of Brisson* is referable to the Madagascar *Corythornis,* and not to that of the African continent, yet it can by no means be safely determined that the *Alcedo cristata* of Linnæus refers to the same bird, although he quotes Brisson's species as identical. Dr. Finsch has carefully collated the synonymy for his and Dr. Hartlaub's forthcoming work on the Ornithology of Eastern Africa; and he agrees with me that, as we can never settle the question with absolute certainty, it will be more to the interest of science to keep the two species under the names by which they have been generally known, viz. *Corythornis vintsioides* for the bird, and *C. cristata* for the Continental*.

---

* *Vide* Pucheran, Rev. Zool. 1861, pp. 337–341.

With regard to the *Alcedo cyanostigma* of Rüppell (N. Wirbelth. Taf. 24), Dr. Finsch was inclined to regard it as a good species; but on examining the large series of specimens in my collection, he agreed that my determination was right, and that Rüppell's species is nothing more than the young of *C. cristata*. In order to be sure on this point I wrote to Frankfort to request the loan of the type-specimen, to enable me to decide the question once and for ever; but I regret that my application did not meet with success. I further regret this circumstance as this is the only case in which I have met with a refusal from any Museum, public or private, in England or abroad, to furnish me with a sight of any specimens that I required for the purpose of my work. In the absence of a personal view, I must consider Rüppell's bird to be identical with specimens from other parts of Africa, although I should like to see more Abyssinian specimens. I have however no doubt that this determination, in which Dr. Finsch entirely concurs, will prove to be perfectly correct.

As in the case of *H. chelicutensis*, specimens of *C. cristata* from South Africa are larger than those from West Africa and Abyssinia, but do not present any difference in plumage. I subjoin the measurements of several specimens† from different localities, but I cannot discover any characters sufficient to justify the separation of the South-African bird as a distinct species.

---

* [Dr. Pucheran (*loc. cit.*) is of the contrary opinion.—Ed.]

† The first, fifth, and sixth of these are in Mr. Gould's collection, the fourth in Mr. Monteiro's, the others in my own.

No.	Sex.	Locality.	Authority.	Long. tot.	Rostri.	Alæ.	Caudæ.	Tarsi.	Dig. med.
1.		White Nile ..	Petherick	4·75	0·95	2·1	. .	0·2	0·40
2.	♂.	West Africa ..	Verreaux	5·00	1·25	2·1	0·95	0·2	0·40
3.		Gambia	Whitely ..	4·70	1·15	2·2	0·95	0·2	0·40
4.		Benguela	Monteiro	4·80	1·15	2·2	1·00	0·2	0·40
5.		Natal	Ayres	5·20	1·20	2·3	1·10	0·2	0·45
6.		Natal	Ayres	6·00	1·20	2·3	1·10	0·2	0·45
7.		Cape Colony (?)	Ward. . . .	5·30	1·30	2·3	1·10	0·2	0·46

Mr. Gould's specimen from the White Nile has no tail and no tip to its beak, so that I have been obliged to measure it as best I could. In the measurements given in the present paper, I should state that all the birds are in skin, and also that the claw is not included in the length of the middle toe.

107. Alcedo quadribrachys, Bonap. Consp. Av. i. p. 158.

This beautiful Kingfisher was named *quadribrachys* in contrast to the *Alcyone azurea* (*A. tribrachys*, Shaw) of Australia, to which it bears at first sight some resemblance. The African bird, however, may at once be distinguished by its rich cobalt-blue back and by its having four toes, whereas *Alcyone azurea* has only three, and the back is of a uniform azure. To my mind, however, the African species bears a close affinity to the Malayan *Alcedo asiatica* of Swainson (*A. meninting* of Horsfield), and in an arrangement of the genus *Alcedo* these two species must be placed in close proximity. The shorter beak and more distinct cobalt-blue bars on the head are some of the characters that separate *A. asiatica* from *A. quadribrachys*.

108. Alcedo natalensis, A. Smith, S. Afr. Q. Journ. no. v. p. 14.

This is an *Ispidina*, and distinct from the *I. picta* of West Africa and Abyssinia, from which it may at once be distinguished by a bright blue spot on the side of the neck. Other differences are its slightly shorter and broader bill, and the extremely rich ultramarine of the back. Synonyms of *I. natalensis* are *I. nitida* of Kaup and *Alcedo picturata* of Schlegel. I have examined the type-specimen of Dr. Kaup's *I. nitida*, which is a young bird in the British Museum; and this identification is very satisfactory, as no one had hitherto been able to identify this species. Dr. Finsch, to whom I had the pleasure of introducing the present bird, which he had never before seen, very kindly compared a specimen I gave him from Natal with Prof. Schlegel's type of *A. picturata*, and has written to inform me that it is identical with *I. natalensis*.

The species has not been recognized by any previous writer. Sir Andrew Smith does not seem to have noticed any difference between it and any other species of *Ispidina*, nor does he notice the blue spot on the side of the neck, which is the chief distinguishing characteristic of the bird. Mr. Layard has apparently never seen the species at all, and the descriptions of neither Prof. Schlegel nor Dr. Kaup are particularly accurate.

109. CERYLE MAXIMA (Pall. Spic. Zool. vi. p. 14).

As will be seen by a reference to the synonymy of this bird given in my work, the name *guttata* of Boddaert (1783) must give way to the older one of Pallas (1769)*.

110. CERYLE RUDIS (Linn. S. N. i. p. 181).

I do not believe that any good specific characters can be found to separate the different races of this bird as distinct species. At present I can only discover a slight difference in size in specimens from various localities.

The following is a list of the Kingfishers of the Ethiopian Region, the full synonymy of which will be given in my 'Monograph of the *Alcedinidæ*.'

1. Halcyon cyanoleuca (*Vieill.*). Afr. occ. et merid.
2. —— senegalensis (*Linn.*). Afr. occ. et Abyss.
3. —— malimbica (*Shaw*). Afr. occ. et merid.
4. —— dryas, *Hartl.* Afr. occ.
5. —— senegaloides, *Smith.* Natal.
6. —— semicærulea (*Forsk.*). Reg. tota Æthiop.
7. —— erythrogastra (*Temm.*). Ins. "St. Jago" dicta.
8. —— albiventris (*Scop.*). Afr. merid.
9. —— orientalis, *Peters.* Afr. orient.

---

* *Vide suprà*, p. 72.

10. Halcyon chelicutensis (*Stanl.*). Reg. tota Æthiop.
11. —— badia, *Verr.* Afr. occ.
12. Ispidina picta (*Bodd.*). Afr. occ. et Abyss.
13. —— natalensis (*Smith*). Afr. euraustr.
14. —— lecontii, *Cass.* Afr. occ.
15. —— leucogastra (*Fras.*). Afr. occ.
16. —— ruficeps, *Hartl.* Afr. occ.
17. —— madagascariensis (*Linn.*). Ins. Madag.
18. Corythornis cristata (*Linn.*). Reg. tota Æthiop.
19. —— cæruleocephala (*Gm.*). Afr. occ. et Abyss.
20. —— vintsioides (*Eyd. & Gerv.*). Ins. Madag.
21. Alcedo quadribrachys, *Bonap.* Afr. occ. et merid.
22. —— semitorquata, *Swains.* Reg. tota Æthiop.
23. Ceryle maxima (*Pall.*). Reg. tota Æthiop.
24. —— rudis (*Linn.*). Reg. tota Æthiop.

Of these twenty-four species, twenty-three are peculiar to the Ethiopian Region.

XXV.—*Second List of Birds collected, during the Survey of the Straits of Magellan, by* Dr. Cunningham. By P. L. Sclater, M.A., Ph.D., F.R.S., and Osbert Salvin, M.A., F.L.S., F.Z.S.

Dr. Cunningham has already* given us a very interesting account of his proceedings in connection with the expedition for the survey of Magellan Straits, in the antarctic summer of 1867–68. The bird-skins obtained on this occasion having been submitted to our examination by Prof. Newton, we beg leave to present to the readers of 'The Ibis' the following list of them :—

1. Curæus aterrimus (*Kittl.*)	Cape Negro	Nov. 29, 1867.
2. Cinclodes patagonicus (*Gm.*)	Ancud, Chiloe	May 23, 1868.
3. Hylactes tarnii, *King*	Halt Bay	April 21, 1868.
4. Anæretes parulus (*Kittl.*)	Sandy Point	May 1867.
5. Eustephanus galeritus (*Mol.*)	Chiloe	April 4, 1868.
6. —— ——		
7. Ceryle stellata, *Meyen*	Port Otway	April 16, 1868.
8. Picus lignarius, *Mol.*	Chiloe	May 1868.
9. Colaptes pitius (*Mol.*)	Lata	June 8, 1868.

---

* Ibis, 1868, p. 486.

10.	Cathartes aura (*L.*)	Hasleyn Cove, Messeur Channel	May 1868.
11.	Geranoaetus melanoleucus (*Vieill.*)	Cape Negro	Nov. 29, 1867.
12.	Buteo erythronotus, *King*	Fox Bay, W. Falkland	Jan. 31, 1868.
13.	Nycticorax obscurus, *Licht.*	Tyssen Islands, Falkland Sound.	Jan. 30, 1868.
14.	—— ——	Even Harbour	April 28, 1868.
15.	Ardea egretta, *Gm.*	Port Otway	April 16, 1868.
16.	Vanellus cayennensis (*Gm.*)	Gregory Bay	Dec. 12, 1867.
17.	Chionis alba (*Forst.*)	Dungeness Spit	Feb. 16, 1868.
18.	Thinocorus rumicivorus, *Esch.*	Gregory Bay	Dec. 12, 1867.
19.	Sterna cassini, *Scl.*	St. Iago Bay	Dec. 7, 1867.
20.	Lestris antarctica (*Less.*)	Sta. Magdalena	March 2, 1868.
21.	Larus dominicanus, *Licht.*	Halt Bay	April 24, 1868.
22.	Rhynchops melanura, *Sw.*	Ancud, Chiloe	May 27, 1868.
23.	Diomedea exulans, *L.*	Chonos Arch.	Mar. 27, 1868.
4.	Podiceps rollandi, *Q. & G.*	Halt Bay	April 21, 1868.
25.	Podiceps caliparius, *Less.*	Chiloe	April 6, 1868.
26.	Podilymbus podiceps (*L.*)	Chiloe	Mar. 20, 1868.
27.	Phalacrocorax carunculatus (*Gm.*).	Sta. Magdalena	Dec. 4, 1867.
28.	Cygnus coscoroba (*Mol.*)	Rio Galegos	Dec. 23, 1867.
29.	Cygnus nigricollis (*Gm.*)	Elizabeth Isle	Nov. 1867.
30.	Chloephaga antarctica (*Gm.*)	Port Otway	April 16, 1868.
31.	Mareca chiloensis, *Eyton*	Gregory Bay	Dec. 12, 1867.
32.	Aptenodytes pennanti, *Gray*	Tyssen Island	Jan. 30, 1868.
33.	Spheniscus magellanicus (*Forst.*)	Sta. Magdalena	Dec. 4, 1867.

It will be thus seen that Dr. Cunningham's present collection consists of thirty-three specimens, referable to thirty-one species. As regards the land-birds occurring in it (Nos. 1 to 11), they are all well-known Chilian species, thus confirming the views we have already put forward on the general character of the Patagonian avifauna. The same is the general case with the rest of the series, although these are mostly species of much wider distribution.

We subjoin some remarks upon two of the species included in the list of Patagonian *Passeres* given in our former paper on this subject ('Ibis,' 1868, pp. 183–189).

Zonotrichia canicapilla, Gould, Zool. Voy. 'Beagle,' iii. p. 91; Scl. et Salv. Ibis, 1868, p. 185.

Mr. Salvin has lately obtained from Mr. Gould a marked specimen of this species, which appears to us to be nothing more than *Z. pileata* in immature plumage. At the same time it is very possible that the two birds may be distinguishable in their adult dress, although we have never been fortunate enough to meet with specimens of *Z. canicapilla*. Mr. Darwin, in his notes on the zoology of the voyage of the 'Beagle', evidently recognizes them as distinct.

PHRYGILUS GAYI (Gould); Ibis, 1868, p. 186.

Since we wrote our former article, we have taken Dr. Cunningham's example to Paris and compared it with the typical specimen of *P. gayi* in the Jardin des Plantes. It turns out, as we had anticipated, that the smaller species, *Fringilla formosa* of Gould, is the true *F. gayi*, and that these two names must henceforth be regarded as synonymous. Of the larger species (with which Dr. Cunningham's skin perfectly agrees) there are also two skins in the Paris Museum, marked "Chili, Gay." We have therefore little doubt that this is the *Chlorospiza aldunatii* of Gay (Faun. Chil. Zool. p. 356), although it does not quite correspond with the description there given. We may remark that Gay correctly quotes *Fringilla formosa*, Gould, as a synonym of his *Chlorospiza gayi*.

If this view be correct, the synonyms of these two allies will stand as follows:—

(1). PHRYGILUS GAYI.

Fringilla gayi, Eyd. et Gerv. Mag. Zool. 1834, Ois. pl. 23.
Phrygilus gayi, Cab. Mus. Hein. p. 134.
Chlorospiza gayi, Gay, Faun. Chil. Zool. p. 356.
Fringilla formosa, Gould, Zool. Voy. 'Beagle,' iii. p. 93.

Diagn.—Minor; colore flavo magis aurantiaco; ventre imo albo; long. tota 6·0, alæ 3·1, caudæ 2·5.

Hab. Chili (*Gay*); Southern Patagonia (*Darwin*).

(2). PHRYGILUS ALDUNATII.

Fringilla gayi, Gould, Zool. Voy. 'Beagle,' iii. p. 93.
Phrygilus gayi, Bp. Consp. p. 477.
—— *gayi*, Scl. et Salv., Ibis, 1868, p. 186.
Chlorospiza aldunatii, Gay, Faun. Chil. Zool. p. 355.

Diagn.—Major; colore flavo magis olivaceo; ventre toto long. tota 6·5, alæ 3·8, caudæ 2·8.

Hab. Chili (*Gay*); Southern Patagonia (*Darwin* and *Cunningham*).

We have not been able to refer to Lafresnaye and D'Orbigny's *Fringilla gayi*, ex Bolivia, *stirps major* (Mag. de Zool. 1837, p. 75); so we cannot say positively that it belongs to this species.

⁂ We hope shortly to have the opportunity of describing the eggs sent home by Dr. Cunningham.—Ed.

XXVI.—*Notes on Birds of the Territory of the Trans-Vaal Republic.* By Thomas Ayres*.

1. (L. 6†.) Gyps fulvus (Gmel.). Fulvous Griffon-Vulture.

I have a small collection from the Limpopo and the road to that river. I was on the whole much disappointed with the birds of that part of the country, there not being anything like the variety I expected to find; the *Raptores* are very badly represented, except by the Vultures, of which most kinds are numerous, excepting the Pileated and Egyptian,—the Griffon being in immense numbers; I can only compare them to a lot of barn-door fowls. They accompany the hunters, and when game is shot wait patiently on the surrounding bushes and trees to eat up whatever offal or meat is left for them, pouncing upon it in scores before one is twenty yards away, and have much more intelligence than I gave them credit for: they know quite well where a camp is about to be broken up, and immediately collect, narrowly watching proceedings, and gradually approaching closer and closer as the oxen are being inspanned; and the waggons are no sooner on the move than down they come, squabbling for the bits of bone lying about, or anything else that may be left that suits their fancy. The lions kill game in the night; early in the morning the Vultures proceed to the scene of operation, immediately followed by the

---

[* Kindly communicated by Mr. John Henry Gurney.—Ed.]

† The numbers preceded by "L." in brackets are those by which some of the species are distinguished in Mr. Layard's 'Birds of South Africa.'

jackals, wolves, and Caffres, who watch the Vultures' flight, and are there almost as soon as themselves. I may notice that the Caffres are no more afraid of a lion than we are of a dog, and coolly drive him away from his food*, frequently with nothing in their hand but a small stick. The Vultures were breeding all along the banks of the river, placing their nests on the tops of the highest trees so as to be quite inaccessible; at least I could find neither white nor black who would risk his neck at the height perhaps of a hundred or a hundred and fifty feet to get me the eggs, though I offered high rewards.

[The South-African race of this Vulture, perhaps, differs sufficiently from the nearly allied Northern race to be considered specifically distinct, in which case it should bear the name of *Gyps kolbii* (Daud.).—J. H. G.]

2. (L. 5.) VULTUR AURICULARIS, Daud. Sociable Vulture.

These birds place their nests on the upper branches of rather low thorn trees: the nest is composed of coarse sticks on the outer layers, and finer towards the inner; it is lined with more or less wool and coarse matted lumps of dirty hair, much of it probably vomited by the bird after its meals; the structure is about four feet in diameter, and slightly concave. I examined two nests in the month of July, each containing one egg, which in both cases was much incubated: these nests were situated on low trees on the banks of a river in the Free State.

3. (L. 4.) VULTUR OCCIPITALIS, Burch. Occipital Vulture.

The nest of this Vulture almost exactly resembles that of the last, and is placed in similar situations; the birds also breed at the same time, and lay but one egg.

The egg sent was much incubated, and was taken in the month of July.

[The egg here mentioned was forwarded by Mr. Ayres to Mr. Tristram, who informs me that "it is white with a few faint brown cloudings, is thinner in texture than most other Vultures', and decidedly more elongated, resembling rather a Condor's in its shape. Greater axis 3·9375 in., lesser axis 2·6875 in."—J. H. G.]

---

* *Cf.* Moffat's 'Missionary Labours,' ed. 1842, p. 141.

4. (L. 38.) **Elanus cæruleus** (Desf.). Black-shouldered Kite.

This species appears to be equally distributed throughout Natal and Trans-Vaal.

5. (L. 28.) **Chicquera ruficollis** (Swains.). African Red-necked Falcon.

The first specimen which I obtained of this handsome bird was shot by Dr. Portman whilst attempting to carry away a tame Parrot which the Doctor had, and at that moment was not ten feet outside the veranda of the house.

A pair of these Falcons may occasionally be seen flying about the willow trees in Dorp; but they are by no means plentiful. The sexes are very similar in plumage, but the male is rather the smaller. The irides are dark brown, the naked skin round the eye yellow, the bill blue horn-colour, but yellow at the base, the cere, tarsi, and feet yellow.

6. (L. 33.) **Tinnunculus rupicoloides** (A. Smith). Greater South-African Kestrel.

These Kestrels are tolerably common in the open country surrounding Potchefstroom, and in habits and appearance they much resemble our Natal *T. rupicolus*, they are generally in pairs, but sometimes three or four together; they feed upon rats, mice, lizards, and various insects, especially locusts.

Irides tawny-yellow, bill bluish horn-colour, but black at the tip, cere yellow, tarsi and feet dull yellow.

7. (L. 41.) **Accipiter polyzonoides**, A. Smith. Many-banded Sparrow Hawk.

Adult male:—Iris orange, bill black, but bluish at the base, cere and gape yellow, tarsi and feet yellow.

Immature female:—Iris yellow.

The colours of the eyes, tarsi, feet, bill, and cere appear to vary much in different individuals. Scarcely two are precisely similar.

8. (L. 44.) **Melierax gabar** (Daud.). Gabar Hawk.

Inhabits the bush.

Adult female:—Iris dark reddish-yellow; bill black, base and cere red; tarsi and feet bright brick-red. Male and female immature. Iris yellow.

[As the dimensions of this species are said to vary in different parts of Africa (Ibis, 1861, p. 74, and 1868, p. 145), I annex the principal measurements of a pair obtained by Mr. Ayres in the Trans-Vaal:—

	Wing from carpal joint.	Tail.	Tarsus.	Middle toe and claw.
	in.	in.	in.	in.
♂	7·5	6·25	1·75	1·5
♀	7·75	6·5	2	1·75

The smaller Northern race, *M. niloticus* (Sundevall, Œfvers. K. Vet.-Ak. Förhandl. 1850, p. 132), may, I think, be accepted as specifically distinct.—J. H. G.]

9. (L. 46.) Melierax musicus (Daud.). Chanting Hawk.

Obtained in the bush-country on the banks of the Limpopo river, where it is the most numerous species of any of the diurnal birds of prey, except the Vultures.

Immature male:—Iris yellow, bill black at the tip, base and cere yellow, tarsi and feet red.

10. (L. 59.) Bubo maculosus (Vieill.). Spotted Eagle-Owl.

The only nest I ever found of this fine Owl was placed in a nook on the face of a precipitous rock, and contained one young bird not long hatched, which was of a creamy, tawny-white colour, and one egg cracked and addled, the shell of which I send; this I took in the month of October whilst on an exploring expedition to some very curious limestone-caves of great extent, some of the galleries of which are exceedingly beautiful by torchlight, stalactites of all imaginable shapes hanging in every direction.

11. (L. 68.) Caprimulgus rufigena, A. Smith. Rufous-cheeked Goatsucker.

One day in October, whilst walking with my gun amongst some rocky ground, the bird which I now send rose close to my feet, and I shot it; on examining the spot whence it rose I found an egg which was laid on the bare ground, without the slightest pretence to a nest.

[The bird and egg above mentioned were sent by Mr. Ayres to Mr. Tristram. The bird (a female) agrees with the figure of the male in Sir A. Smith's 'Illustrations of the Zoology of South Africa' (*Aves*, pl. 100), except that it wants the white on the tail which occurs in the male bird. Mr. Tristram informs me that "the egg is of a rich cream-colour, with faint fawn-coloured cloudings all over it."—J. H. G.]

12. (L. 83.) HIRUNDO SEMIRUFA, Sundev. Rufous-breasted Swallow.

These Swallows appear in Potchefstroom in September, in the spring of the year, and continue throughout the summer. They appear to be somewhat solitary in habits during their stay, and are decidedly scarce. Their flight is comparatively heavy.

The irides are dusky, bill black, tarsi and feet dusky.

13. HALCYON DAMARENSIS, Strickl. Damara Kingfisher.

Obtained in the district of the river Limpopo, but shot in the bush many miles from water.

[The specimen sent agrees with examples from Damara Land of the larger race of *Halcyon chelicuti* (Stanley) described by Strickland (Contr. Orn. 1852, pp. 153, 154) as distinct*.—J. H. G.]

14. (L. 101.) HALYCON ALBIVENTRIS (Scop.). Brown-hooded Kingfisher.

Occurs in the district of the river Limpopo, but is scarce.

15. (L. 110.) CERYLE RUDIS (Linn.). Black-and-White Kingfisher.

I found a few of these in the same district.

16. (L. 109.) CERYLE MAXIMA (Pall.). Great African Kingfisher.

I met with a few of this species in the Mareco district.

17. (L. 169.) DRYMŒCA FLAVICANS (Vieill.). Citrin-Drymœca.

This delicate little bird is common about the hedgerows in

---

* [*Cf. suprà*, pp. 277, 278.—ED.]

Potchefstroom. Ground covered with dense masses of tall weeds is generally chosen by it for its breeding-place. The nest is made of fine strips of green grass very curiously curled and twisted together, attached to weeds some two or three feet from the ground; it is of an oval shape, well closed in, with the exception of a small opening on the upperside, and is lined with fine white down taken from grasses and plants. The eggs, which are from two to four in number, vary much in colour.

[Mr. Layard (B. S. Afr. p. 95) supposes this species to be identical with the *Motacilla subflava* of Gmelin (S. N. i. p. 982); but the latter being founded on a figure in the 'Planches Enluminées' (No. 584, fig. 2) which hardly admits of satisfactory identification, I have preferred using the specific name proposed by Vieillot for the present species, which is well figured and described by Le Vaillant (Ois. d'Afr. pl. 127) under the name of "Le Citrin."—J. H. G.]

18. (L. 157.) DRYMŒCA LEVAILLANTI, A. Smith. Le Vaillant's Drymœca.

The nest of this species is attached to the upper parts of tall weeds, amongst the leaves; it is composed of very fine wool and spiders' webs mixed with dry grass rather roughly woven together; the inside is lined lightly with the feathery down of some sort of wild flowers. It is oval in shape, with the entrance on the upper side, and has altogether a white, light, and pretty appearance.

The eggs vary much in colour, some being pure white with dark pink spots, others pinkish-white with very fine small spots of rather darker pink; others, again, are pale sky-blue blotched and spotted with pale pinkish-brown.

19. (L. 176.) CALAMOHERPE RUFESCENS (Keyserl. & Blas.). Fig-eating Reed-Warbler.

The nest of this species is a very extraordinary structure for so small a bird; it is a mass of seven or eight inches in depth and four or five in diameter, with a small neat cup-shaped cavity at the top, an inch and a quarter across; it is composed principally of white feathers intermixed and bound together with pieces of cotton, wool, and grass; the tips of many of the feathers are allowed to stick out fancifully, which gives the nest an odd appearance as if expressly ornamented; the inside of the cup is very neatly lined with fine grass and horsehair. All nests are not as large as the one described; but all partake more or less of the same character. They are built generally amongst the fig-tree hedges common in the town of Potchefstroom. When insects are scarce the birds feed readily on the ripe figs, here very abundant in the autumn months. The eggs are generally two or three in number. It seems to me that the birds add to their old nest each season, which will account for the structure being so extremely large.

[This Reed-Warbler is the same as that which I have before mentioned (Ibis, 1865, p. 266, and 1868, p. 157) as a variety of the British species, *C. strepera,* from which it in fact only differs in the comparative length of the first and second primaries—the first being from ·1875 to ·25 in. shorter than the second, whilst in the English bird it is only about ·0625 in. shorter. This difference, though slight, appears to be a constant peculiarity of the South-African race, as I have found on a comparison of specimens from Natal, Trans-Vaal, Damara Land, and Colesberg. —J. H. G.]

20. (L. 215.) Zosterops capensis (Linn.). Cape Zosterops.
Occasionally seen in small companies, actively hopping and climbing about the hedges and trees during the winter months.

21. (L. 219.) Motacilla capensis, Linn. Cape Wagtail.
The nest is coarsely built of rough grass and rather thickly lined with short hair; it is cup-shaped and generally placed in some crevice of a wall, or in a bank, or amongst the crannies of a rock, and frequently within a foot or two of some water. It may also often be found under the eaves of a building, or in a hole in the thatch. The eggs are generally four in number.

22. (L. 240.) Turdus olivaceus, Cuv. Olivaceous Thrush.
These Thrushes are common in Potchefstroom all the year round, but are silent and retiring in their habits, frequenting thickets and dense hedgerows, and occasionally uttering a low short chuck, very similar in sound to that of the Redwing of Europe.

23. (L. 237.) **Turdus strepitans**, A. Smith. Ground-scraper Thrush.

Obtained at the river Limpopo. Iris double-ringed, yellow and red.

24. (L. 248.) **Bessornis phœnicurus** (Gmel.). Garden-Chat.

Two eggs only are generally laid by these birds. The nest is placed on the ground, mostly at the foot of some tree amongst the hedges, in a well-sheltered spot, and frequently close to water, and often amongst dead and dry fallen leaves; it is cup-shaped, two inches and a half in diameter in the inside, and is built roughly of dead leaves and broad grasses, lined with horse-hair and long fibres not very neatly woven. The eggs are large for the size of the bird.

25. (L. 319.) **Melænornis silens** (Shaw). Silent Melænornis.

Iris dusky; bill, tarsi, and feet black.

This bird has the light wavering flight of the Flycatchers; it is rather scarce at Potchefstroom, and I have hitherto only found it there during the winter months. It frequents the hedgerows, and when perched on the outer twig of some hedge it much resembles in appearance *Lanius collaris*.

26. (L. 309.) **Urolestes cissoides** (Licht.). Long-tailed Shrike.

Obtained near the river Limpopo. It is also generally distributed throughout the bush-veldt of the Trans-Vaal. It is solitary in its habits.

27. (L. 313.) **Prionops talacoma**, A. Smith. Helmeted Shrike.

Found in the neighbourhood of the Limpopo, in flocks or families of from six to ten in number.

Irides and eyelids yellow, tarsi and feet red.

28. (L. 318.) **Eurocephalus anguitimens**, A. Smith. White-breasted Shrike.

Found in companies of from six to ten, in the district of the river Limpopo.

Iris dusky; sexes similar in size and plumage.

29. (L. 321.) LANIARIUS ATROCOCCINEUS (Burch.). Carmine-breasted Shrike.

Obtained near the Limpopo.

30. (L. 353.) DILOPHUS CARUNCULATUS (Gmel.). Grey Starling.

These birds feed much upon locusts and other insects, swallowing them whole, and, in habits and motions whilst feeding, remind one much of the English Starling. They are only found at Potchefstroom during the winter months, from April to November, when they occur both singly and also in companies varying in number from three up to a hundred or more.

Male:—Iris very light brown, bill pale on the upper and pink on the lower mandible, the bare skin about the eye (which in some examples extends over the occiput) light yellow; wattles about the head and chin black, tarsi and feet pale.

Female:—Iris dark brown, bill pale, tarsi and feet more dusky.

31. (L. 335.) JUIDA AUSTRALIS (A. Smith). Burchell's Grackle.

Obtained near the river Limpopo.

32. (L. 367.) EUPLECTES TAHA (Linn.). Little Black-and-yellow Weaver-bird.

During the winter these birds are found congregating with *E. sundevalli*, and in equal numbers; but in the summer they are not found with their winter associates, and the greater number of them leave us, though some are occasionally met with in the rushy and reedy vleys, where they probably breed. The males are at this season exceedingly beautiful; I can only compare them to butterflies; they puff out all their feathers and appear like balls of black and yellow floating slowly about over the grass, evidently courting their less gaudy loves hidden hard by among the long rushes.

Iris dusky, tarsi and feet dusky brown, the male has the bill black in summer, but in winter dusky pale, darkest along the ridge.

33. (L. 391.) ESTRELDA BENGALUS (Linn.). Purple-eared Finch.

In November 1864 I found this pretty species in some numbers amongst the bush on the banks of the Tugela, in Natal; and my brother has recently met with it on the Limpopo.

Iris reddish-hazel, bill lilac, blackish at the tip, tarsi and feet pale.

34. (L. 392.) ESTRELDA MELBA (Linn.). Crimson-throated Finch.

Obtained near the river Limpopo.

35. (L. 408.) PASSER ARCUATUS (Gmel.). Cape Sparrow.

The nest of this bird is a very rough cumbrous structure placed in a hedgerow or low tree, and much resembles that of the English Sparrow; it is exceedingly well lined with feathers and other warm material. I found one situated in the base of the nest of a Rook (*Corvus capensis*, Licht.), in a low mimosa-tree; in the Sparrow's nest were three young birds nearly fledged, and the Rook was sitting upon four eggs in the upper storey.

36. (L. 442.) CRITHAGRA BUTYRACEA (Linn.). Butyraceous Grossbeak.

This species is common at Potchefstroom, breeding amongst the hedgerows, and constructing a cup-shaped nest, rather roughly built of twigs intermingled with fine hair-like substances as a binding, and lined with cotton and fine wool with here and there a feather. It begins to lay in September.

[I may take this opportunity of remarking that in a nearly allied species, *C. sulphurata* (Linn.), I find specimens from Natal considerably smaller than those from the Cape, but I think not otherwise different.—J. H. G.]

37. (L. 426.) MEGALOPHONUS CINEREUS (Vieill.). Lesser Rufous-capped Lark.

38. (L. 434.) MEGALOPHONUS APIATUS (Vieill.). Bateleuse Lark.

39. (L. 435.) CERTHILAUDA GARRULA, A. Smith. Garrulous Lark.

All these three Larks are to be found in the open country of the Trans-Vaal.

40. (L. 452.) Schizærhis concolor (A. Smith). Dusky Plantain-eater.

Common throughout the bush country of the Trans-Vaal; the specimens sent are from the Limpopo.

41. (L. 458.) Bucorvus abyssinicus (Gmel.). Abyssinian Hornbill.

There are two or three kinds of land-tortoise in the district of the river Limpopo which are eaten and much esteemed by the natives, and also fully appreciated by the large Abyssinian Hornbill, which attacks the tortoise and very neatly picks every atom of flesh from the unhappy reptile, eating also the legs and head and leaving the entire shell without damage.

I could not at first imagine what it could be which thus destroyed the tortoises without injuring their shell; but the Caffres assured me that it was the Abyssinian Hornbill during the summer months, when the tortoises are out in numbers.

42. (L. 456.) Buceros erythrorhynchus (Temm.). Red-billed Hornbill.

Numerous about the river Limpopo.

[In the specimen sent, a female, the cheeks were dark bluish grey, not white as described by Mr. Layard (B. S. Afr. p. 227). I believe that both these variations of colour occur in South-African examples of this bird, but whether they are indicative of distinct races I am unable to say.—J. H. G.]

43. Psittacus meyeri, Rüpp. Meyer's Parrot.

These Parrots occur near the Limpopo and throughout the bush-veldt of the Trans-Vaal; they are much kept as pets by the inhabitants, and become perfectly tame.

[Some specimens of this Parrot have an irregular broad mark of pale yellow across the crown of the head, which in other examples is entirely wanting; the pair sent by Mr. Ayres from the Limpopo, a male and female, both possessed this peculiarity.—J. H. G.]

44. (L. 474?) Chrysoptilus bennetti, A. Smith. Bennett's Woodpecker.

Obtained near the river Limpopo.

[This species, to which the above specific name is assigned by

Professor Sundevall (Consp. Pic. no. 186, p. 63), was included by me in my list of Natal birds (Ibis, 1860, p. 213) as *Campethera chrysura*, and subsequently (Ibis, 1862, pp. 37 & 157) as *Dendromus smithi*. I believe that the correct specific name of this Woodpecker is that which, on the authority of Professor Sundevall, I have here applied to it.—J. H. G.]

45. (L. 498.) Oxylophus serratus (Sparm.). Edolio-Cuckoo.

Appears in Potchefstroom about November, and leaves again before the winter sets in.

46. (L. 524.) Francolinus swainsoni, A. Smith. Swainson's Francolin.

47. (L. 528.) Francolinus pileatus, A. Smith. Pileated Francolin.

Both these Francolins are found near the river Limpopo.

48. (L. 537.) Pterocles gutturalis, A. Smith. Sombre Sand-Grouse.

These birds are tolerably plentiful in the neighbourhood of Potchefstroom towards the latter end of winter and the beginning of spring, but appear to leave in summer; they are generally in companies of from three to a dozen or so, and very seldom found singly: they mostly frequent bare ground not far from water; and I am informed that they go regularly to drink twice a day, however distant they may be from their supply. Their flight is exceedingly strong; they rise with a loud whirring noise, and when on the wing they somewhat resemble some of the Pigeons, especially *Columba trigonigera*. On the approach of danger they crouch and lie very close to the ground, and it is then exceedingly difficult to see them; when disturbed they do not run, but rise quite suddenly. Their notes, which are, I believe, only uttered on the wing, are short and harsh, and may be heard a considerable distance; they feed much upon the seed of a small species of tare or pea, and also upon bulbous nutty roots of a small species of grass, which they scratch up; these bulbs have a strong, agreeable aromatic smell; and when the birds have freely fed on them they appear to be thoroughly scented.

Iris dusky-brown, bill light bluish horn-colour, feet dusky.

49. (L. 536.) PTEROCLES BICINCTUS, Temm. Double-banded Sand-Grouse.

This species occurs near the river Limpopo.

50. (L. 540.) EUPODOTIS CRISTATA (Scop.). Kori Bustard.

This splendid bird is not uncommon in the Trans-Vaal, living principally amongst the scattered mimosa bush; it is exceedingly fond of the gum which exudes from the mimosa, and which much resembles gum arabic, on which account it has received from the Dutch inhabitants the name of "Gum-Paauw."

I never saw more than three of these birds together, and they are generally found singly, though sometimes in pairs. The flesh of this species is too coarse and oily to be good eating.

Two fine eggs of this Bustard were brought me by a Caffre, from whose description I identified them. He stated that no nest whatever was formed, but the eggs laid on the bare open ground on a stony ridge.

The specimen sent I take to be a young hen, as it only weighed fifteen pounds, and I am told that the male bird frequently attains the weight of from thirty to forty pounds. The irides in this specimen were light tawny-brown; the upper mandible dusky, except the side edges, which, with the under mandible, were dingy white, which was also the colour of the thighs, tarsi, and feet. The stomach of this bird was crammed with locusts.

[Mr. Tristram, to whom the eggs mentioned by Mr. Ayres were sent, describes them to me as "the most magnificent of eggs, very nearly as large as Cranes', and more pointed than those of other Bustards, rich red all over, with richer blotches thickly over the whole surface."—J. H. G.]

51. (L. 545.) EUPODOTIS SENEGALENSIS (Vieill.) Senegal Bustard.

This Bustard lays two eggs, which I am told are generally placed in the open country under shelter of some high tufts of grass. The eggs of different individuals appear to vary much in shading and blotching.

52. (L. 542.) EUPODOTIS LUDWIGI, Rüpp. Ludwig's Bustard.

I took the eggs of this Bustard from the top of a low stony range of hillocks. I happened to be at a farmstead about thirty miles from Potchefstroom, when a young boer told me he had found a *Paauw's* nest; so I immediately started with him to the spot, rather late in the afternoon; after a smart walk of about five miles we came to the stony ridge; and there lay the two eggs, quite warm, the old bird having evidently just left the nest and crept away amongst the stones on our approach; they were laid on the bare ground, without any appearance of a nest. We sat down to rest for a quarter of an hour or so, when my Hottentot, whom I had taken with me, suddenly, but in a whisper, said that he saw the bird, and pointed to a spot within a few yards of us; but I could see nothing; so I handed him my gun, and he immediately killed the bird as she lay crouched amongst the stones within ten yards of us, and would no doubt there have lain until we left the place.

53. (L. 551.) CURSORIUS RUFUS, Gould. Burchell's Courser.

The bird sent, which proved to be a male, allowed itself to be caught on its nest by a lad from Potchefstroom; the eggs, two in number, were placed on the bare ground, in a gravelly spot, and were much incubated.

[On reexamining the examples formerly recorded by me from Natal (Ibis, 1860, p. 217) under the above name, I find that they do not belong to this species, but to its near ally *C. senegalensis*, Licht. I have not yet seen *C. rufus* from Natal or *C. senegalensis* from the Trans-Vaal.—J. H. G.]

54. (L. 558.) HOPLOPTERUS ARMATUS, Jard. & Selby. Black-and-white Spurwing Plover.

The eggs of this Plover are generally from two to four in number; the nest is simply a slight excavation on the bare open ground, with a thin layer of grass-roots, and is generally placed from fifty to a hundred yards from the edge of some swamp.

The birds breed in August and September, and are at this time exceedingly bold, darting at the heads of any cattle that happen to come too near their nests, and actually driving them away by their incessant noise and annoyance.

55. (L. 560.) Vanellus coronatus, Temm. Crowned Plover.

The nest of this species is precisely similar to that of the Black-and-white Spurwing, and is placed in similar situations; the eggs are from two to four in number.

56. (L. 566.) Ægialitis kittlitzi (Reich.). Kittlitz's Plover.

These birds frequent the muddy flats, and run with considerable swiftness, stopping suddenly and bobbing the head, as many of the Plovers do. They remain through the summer and breed in the Trans-Vaal.

Eye large, iris very dark; bill black; tarsi and feet ashy black.

57. (L. 574.) Anthropoides stanleyanus, Vig. Stanley Crane.

Common here, and breeds plentifully, choosing situations very similar to those selected by *Eupodotis caffra.*

58. (L. 589.) Ardetta pusilla (Vieill.). Rufous-necked Little Bittern.

[The remarks of Mr. Ayres lately given by me (Ibis, 1868, p. 469) under the head of *Ardetta minuta,* were intended by him to apply to the present species; and I regret having erroneously assigned them.—J. H. G.]

59. (L. 591.) Botaurus capensis (Schl.). Cape Bittern.

I first met with these birds amongst the rushes in the swamps surrounding Potchefstroom, where they lie concealed during the day, emerging from their covert towards dark to seek their favourite feeding-grounds; at this time they frequently fly over one's head on their passage. Their flight is slow and laboured; and a loud harsh "quirk" is occasionally uttered as they pass. When wounded they are extremely pugnacious, defending themselves with great pertinacity: they throw themselves on their backs, and, with claws and bill (which are both exceedingly sharp and strong) advanced, make rather a formidable appearance, more especially as the feathers round the neck are ruffled up at this time; and few dogs care to interfere with them. On my first arrival in Potchefstroom I was informed by the Dutch that a very large snake inhabited the surrounding swamps, that many persons had seen it, all of whom had been alarmed, and that at night during the summer months it made a loud bellowing sort of noise, which I should surely hear. I at once determined to overcome the monster and immortalize myself. The noise I certainly heard at night and also in the daytime, and that when I was often a mile or two distant from the swamps. I gave my friends the bullfrogs credit for it; but the Dutch laughed me to scorn for such an idea. I tried, gun in hand, several times to approach the spot; but sometimes the place amongst the reeds was inaccessible, at others the reeds so thick that I made so much noise in pushing my way through them as to frighten my enemy, who immediately left off making the unearthly noise in which he appeared to delight. One day, however, I heard it in a comparatively open swamp, and on walking in a direct line to the spot the noise ceased and a Bittern flew up and alighted again within three hundred yards. As I could see nothing further, I waited and listened for the noise to recommence, considering that the snake's head might perhaps be under water, as I was standing up to my middle in it amongst the rushes. After waiting patiently for nearly half an hour, and watching carefully, I heard the noise begin again from the direction in which the Bittern had flown. Proceeding thither, I again flushed the bird; the noise ceased. A third time the same thing happened; so without doubt the Bittern makes this extraordinary noise, which may be regarded as a love-note, and that apparently by drawing in the air and forcing it out again. The skin of the neck being exceedingly loose, the bird probably has the power of inflating it. Tadpoles and small frogs form its principal diet.

Iris brownish-yellow; bill greenish, brown on the ridge; tarsi and feet greenish-yellow.

[The Cape Bittern only differs from the European Bittern (*Botaurus stellaris*) in its smaller size; it is the "*Ardea stellaris capensis*" of Professor Schlegel (Muséum des Pays-Bas, *Ardeæ*, p. 48); and as the comparative measurements of the two races are given by him, it is not needful here to repeat them.—J. H. G.]

60. (L. 579.) ARDEA PURPUREA, Linn. Purple Heron.

This Heron chooses for its breeding-place a secluded reedy swamp. The nest is placed some few feet above the water (which is frequently out of one's depth), on reeds bent down by the bird so as to meet from all directions and thus form a sufficient support for the nest, which is a very rough structure composed of dead sticks and pieces of reeds; it is two or three feet in diameter, with a very slight concavity. These Herons lay three or four eggs; and frequently five or six pairs breed in company, placing their nests within a few yards of each other*.

61. (L. 601.) ANASTOMUS LAMELLIGERUS, Temm. African Anastomus.

This is a very scarce bird here. I have procured one, a female, which was shot within a mile of Potchefstroom.

62. (L. 624.) GALLINAGO ÆQUATORIALIS, Rüpp. Black-quilled Snipe.

Breeds plentifully in the swamps around Potchefstroom, principally in August. The bird sits exceedingly close, and the nests are not easily found; they are placed or rather formed in a stool or clump of grass, in the centre of which the bird treads down the finer blades, and thus forms a sufficient cavity, well surrounded and concealed by the outer blades, which curve over and afford both shade from the sun and shelter from the cold winds.

63. (L. 652.) MARECA CAPENSIS (Gmel.). South-African Widgeon.

The specimen sent is the only one I have yet met with; three flew past me one evening in August, out of which I bagged this one.

Female:—Iris cinnamon-brown; bill black at the base, light pink in the middle, gradually assuming a bluish tint towards the tip; tarsi and feet yellowish-dusky; webs nearly black.

64. (L. 661.) ERISMATURA MACCOA (A. Smith). Maccoa Duck.

The specimen sent I shot in December whilst standing up to my middle in water and mud in a very extensive lagoon on the borders of the Vaal River. It kept constantly diving, and did not attempt to fly ; but so quick were its motions, remaining not a second above water, that I had the greatest difficulty in shooting it. The belly was extraordinarily large, and the stomach contained water-snails.

---

* *Cf. suprà*, p. 238.

The irides were brown, the upper mandible black, the lower pale, tarsi and feet dusky ash-colour.

65. (L. 691.) PODICEPS CRISTATUS (Linn.). Great Crested Grebe.

This bird was brought to me alive one day in April by a Caffre; he stated that he had chased it amongst the reeds in shallow water and so caught it. It is the first specimen I have met with in the Trans-Vaal.

Male, in breeding-dress :—Iris crimson ; bill dark pink, with the gape and ridge dusky ; tarsi and feet dusky, the latter much marked with pale greenish yellow.

[I lately noticed (Ibis, 1868, p. 263) a small and short-billed specimen of *P. nigricollis*, which I had received from Trans-Vaal. Since then I have examined two specimens from the Cape Colony of very similar dimensions ; and it is interesting to find the like peculiarity in the specimen of *P. cristatus* mentioned in the above note by Mr. Ayres. It is certainly the smallest example of this species which has come under my notice ; and I append its measurements, together with those of a British specimen for comparison, and also of a specimen of intermediate size obtained in Walvisch Bay, Damara Land, by the late Mr. Andersson.

	Whole length.	Wing from carpal joint.	Tarsus.	Bill from forehead.
	in.	in.	in.	in.
♂. Trans-Vaal	17	6·50	2·25	1·75
♀. Walvisch Bay ..	19	7	2·25	1·75
♂. Norfolk........	22	7·25	2·75	2

—J. H. G.]

66. (L. 693.) PODICEPS MINOR (Gmel.). Little Grebe.

Male, in breeding-dress :—Iris and eyelid scarlet, tarsi and feet dusky yellowish-green, bill black.

XXVII.—*On rare or little-known* Limicolæ.

By James Edmund Harting, F.L.S., F.Z.S.

(Plate VIII.)

Next to the interest which attaches to the discovery of new species, may be considered that which arises from the acquisition of species which are rare or little known; and the latter term is perhaps no where so well applied as to certain species of Wading birds belonging to the group *Limicolæ*.

Nitzsch, in his excellent work on Pterylography, a translation of which has lately been published by the Ray Society, first employed the term *Limicolæ* to comprehend the families *Charadriidæ* and *Scolopacidæ*; and, admitting that these families form a very natural and independent group, it will be convenient, when referring to them, to make use of the term which he has suggested.

I propose, as opportunity may serve, to endeavour to elucidate the history of certain species of this group, by shortly stating all the reliable information which I can collect regarding their true habitat, geographical range, change of plumage, and habits generally, and at the same time to rectify the synonymy, which in many instances is extremely confused and perplexing. The recent acquisition of a rare bird belonging to this class, from New Zealand, has prompted me to lay before the readers of 'The Ibis,' in the present paper, all that is at present known respecting it.

1. Anarhynchus frontalis.

Anarhynchus frontalis, Quoy & Gaimard, Voy. de l'Astrolabe, Zool. i. p. 252 (1830), pl. 31. fig. 2 (1833); Lesson, Traité d'Orn. p. 560 (1831); *Id.* Compl. Buffon, ii. p. 682 (1840); G. R. Gray, Append. Dieffenbach, Travels N. Zealand, ii. p. 196 (1843); *Id.* Voy. Ereb. & Terr. Birds, p. 12 (1844); Reichenbach, Av. Syst. Nat. Grall. pl. xvii. (1849); Bonaparte, Comptes Rend. 1856, p. 597, no. 96; Harting, Proc. Zool. Soc. May 27, 1869.

Thinornis frontalis, G. R. Gray, Gen. B. iii. p. 545 (1848).

Charadrius frontalis, G. R. Gray, Ibis, 1862, p. 234*; Buller, Essay Orn. N. Zeal. p. 16 (1865).

---

* The reference "*Charadrius frontalis,* Ellman, Zool. 1861, p. 7469,"

Anarhynchus albifrons, Schlegel, Handleid. i. p. 435 (1857).

Hab. So far as at present known, this species, the only one of the genus, is confined to New Zealand. Specimens have been received from Chouraki Bay, and Port Lyttelton, Canterbury Settlement.

Description.—Adult (hitherto undescribed): Bill black, moderately long, pointed, curved to one side, the extreme point turned slightly upwards, the nostrils placed in a long groove on each side of the upper mandible. Forehead and underparts, with the exception of the breast, pure white. Across the breast a narrow band of black. Crown of the head, nape, a narrow line from the bill under the eye to the nape, and upper surface of the body pale cinereous; a narrow line of black feathers separating the white of the forehead from the grey of the crown. Wings long and pointed; primaries brownish-black, the first the longest. Tail of moderate length, square, cinereous, the middle feathers darker in colour. Legs and toes greenish-black, beneath greenish-ochre, moderately long, slender. Toes united at the base by a membrane extending to the first joint; hind toe wanting. Total length 7 inches. Bill 1·2. Wing from carpus 4·7. Tarsus 1·1. Middle toe with nail ·9. (*Exempl. in mus.* J. E. H.)

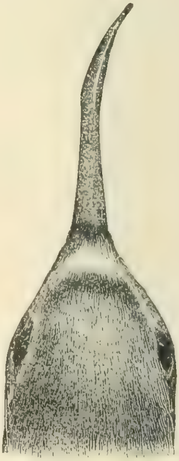
The *young*, as described and figured by Quoy and Gaimard (*loc. cit.*), differs from the adult in having no black line above the white forehead, which is less pure; no black band across the breast, and the grey feathers on the upper surface of the body more or less margined with a paler shade of the same colour. (*Exempl. typ. in mus. Paris.*)

A specimen in intermediate stage of plumage has on each side of the breast an irregular patch of brownish-black, separated on the middle of the breast by white, the latter extending from the chin downwards to the vent, as observable in *Ægialitis cantianus*, *Æ. melodus*, *Æ. nivosus*, and others. This specimen shows signs of being an adult bird, and may therefore be in the plumage peculiar to the female, or to both sexes in winter. (*Exempl. in mus. Brit.*)

---

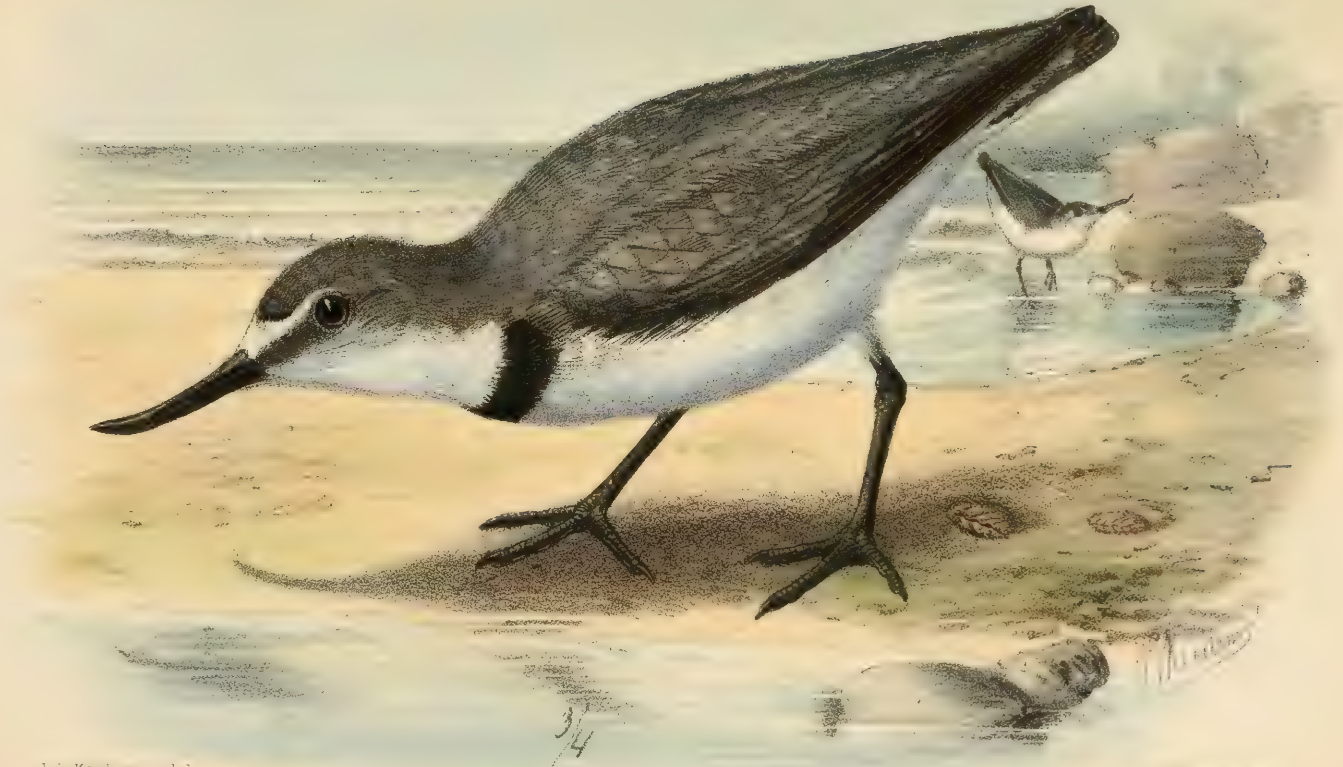
quoted by Mr. G. R. Gray (*ut suprà*) applies, I think, to another species; and in the course of this paper I shall give my reasons for so regarding it.

The genus *Anarhynchus*, as the name would imply, differs from every other in the large order *Grallatores* in the remarkable conformation of the bill, which curves, not downwards as in *Numenius*, nor merely upwards as in *Recurvirostra*, but to one side, the extreme point being turned slightly upwards. This peculiarity, which at first sight might seem to be a deformity, or the result of an accident, is, it would appear, constant. When MM. Quoy and Gaimard in 1830 published the "Zoologie" of the 'Voyage de l'Astrolabe,' they referred to and described a single specimen which had been obtained in New Zealand and deposited in the Museum at the Jardin des Plantes. This specimen, which I have seen, is an immature bird in the plumage above noted, and was figured (uncoloured) in the 'Planches' to the same voyage, published in 1833. From this plate Reichenbach subsequently (1849) figured the head and leg only in his 'Avium Systema Naturale,' (*Grallatores*, pl. xvii.). Mr. G. R. Gray in his 'Genera of Birds' has likewise figured the head and a separate bill Up to the present time, however, the adult bird has neither been figured nor described; and as it differs materially from the type-specimen in the Paris Museum, it has been thought advisable here to give a plate (Plate VIII.) of it. The woodcut of the bill will convey, better than words, a just idea of the most remarkable portion of the structure.



In support of the statement that the curvature of the bill is constant, we have first the testimony of MM. Quoy and Gaimard, who, in the work above cited, make the following important statement: "Nos chasseurs en tuèrent plusieurs qui avaient le bec recourbé en haut, et dévié à droite. N'ayant pu les conserver tous à cause de leur mauvais état, nous nous sommes contentés de rapporter les mandibules pour montrer que ces organes, dans le seul individu que nous avons déposé au Muséum, sont bien dans leur état naturel, et non le résultat d'un accident."

Ibis 1869 Pl. VIII



J. G. Keulemans lith.

[illegible]

ANARHYNCHUS FRONTALIS

Through the kindness of M. Jules Verreaux, three of these bills are now before me, and they all exhibit the remarkable curvature above described. Mr. G. R. Gray, referring to this species in a "List of the Birds of New Zealand and the adjacent islands" (Ibis, 1862, p. 234), took exception to MM. Quoy and Gaimard's plate, observing that "the bird is represented in the 'Voyage of the Astrolabe' with a deformed bill. The bill is perfectly straight in most specimens." But Mr. Gray possibly overlooked the important statement of the French naturalists above quoted. The adult now figured was obtained in the neighbourhood of Port Lyttelton, Canterbury Settlement, and came into my possession early in the present year, along with some other New-Zealand *Limicolæ*. Since then I have been informed that two other examples have been received from New Zealand by Dr. Hartlaub, both of which exhibit the same remarkable curvature of bill. Here, then, are eight bills, six of which I have myself seen, all agreeing in shape and size; and I cannot ascertain the existence of any specimen of this bird in which the bill is straight. It can scarcely be supposed, after all this, that the peculiarity is the result of an accident.

So far as I am aware, the species now under consideration is the only one belonging to the genus *Anarhynchus*, although MM. Quoy and Gaimard state that it much resembles a species from Porto Rico, of which an example is to be seen in the Museum in Paris. They refer also to a species brought from Cayenne by M. Frère, in which the bill is curved upwards at the extremity. I have not only searched the Museum in Paris in vain for the specimens mentioned, but M. Verreaux could not give me any information respecting them. It is possible that the species intended may have been *Terekia cinerea*; but of this I have no means of judging, except from the mention of the bill being curved upwards and the small size of the bird.

MM. Quoy and Gaimard concurred in considering *Anarhynchus frontalis* allied to *Calidris arenaria*, in which view they are supported by M. Jules Verreaux, who would place it between *Calidris arenaria* and *Terekia cinerea*. Bonaparte (*loc. cit.*) assigns it a place between *Terekia* and *Numenius*. In a recent letter to me upon the subject M. Verreaux says, "En somme, ce

genre bien caractérisé, doit, ce me semble, tenir le milieu entre *Calidris arenaria,* dont il a la nature du plumage (les rémiges secondaires en ont la même forme) et de *Terekia cinerea* dont les semi-palmures sont analogues. Comme chez ces deux genres, les rainures du bec se prolongent assez loin, et leurs narines sont percées longitudinalement dans une membrane. Comme eux aussi, les plumes serrées s'avancent assez loin sur la base du bec, qui est noir; les pieds sont également de cette couleur; les membranes qui unissent les doigts à leur base s'étendent jusqu'à la première phalange, et se continuent comme un petit ruban sur les parties latérales des autres phalanges à peu près comme dans le *Terekia*; les ongles sont pointus et en gouttière bien plus marquées que dans ce dernier et dans le *Calidris.*" In these respects it somewhat resembles *Ægialitis,* particularly *Æ. geoffroyi* (Wagler).

Mr. G. R. Gray has expressed an opinion that it is nearer to *Charadrius* than to *Calidris,* and has referred it to the former genus in his last paper on the subject. In some respects it is related to *Strepsilas,* particularly in the character of the bill, which is without that elaborate system of nerves observable in *Calidris,* but not in *Strepsilas.* But I believe that its nearest ally will be found in another New Zealand form, *Thinornis novæ-zealandiæ,* of which genus *Thinornis,* another species, *T. rossi,* has been obtained in the Auckland Islands.

It is somewhat remarkable that since the first notice of *Anarhynchus* by MM. Quoy and Gaimard in 1830, no subsequent writer has been able to add anything to the account then given of it. In 1831 Lesson, in his 'Traité d'Ornithologie,' referred to it in a foot-note, under the head of *Calidris,* considering it "une espèce de Sanderling." The same author, in his 'Complément des œuvres de Buffon,' subsequently (1840) copied the remarks of MM. Quoy and Gaimard on the subject, *verbatim,* without even being at the pains to acknowledge the obligation. In 1843, Mr. G. R. Gray noticed the bird in an appendix to Dieffenbach's 'Travels in New Zealand,' and in the following year he included it in the 'Voyage of the Erebus and Terror;' but in none of these instances is any information given beyond a reference to the previous account of the species.

In 1861 Mr. Ellman in a "List of New Zealand Birds" ('Zoologist,' 1861, p. 7469) included "*Charadrius frontalis*," with some hesitation, as follows:—"Dotterel (Pohoera) *Charadrius frontalis*, ? Lesson. Identical with English species? never seen inland." Now, although Mr. Gray seems to have taken it for granted (Ibis, *loc. cit.*) that *Anarhynchus frontalis* is the species here referred to, I question very much whether Mr. Ellman had at that time ever seen this bird—for two reasons: first, because he makes no allusion to the remarkable form of the bill; and secondly, because he calls it a Dotterel, and says "identical with English species?" I believe that Mr. Ellman's bird was the Chestnut-breasted Plover, common to New Zealand and Australia (*Charadrius bicinctus*, Jard. & Selb., *Hiaticula bicincta*, Gould), and that in alluding to the "English species," he had an indistinct recollection of *Eudromias morinellus*, or possibly of *Ægialitis hiaticula*, known as "Dotterel" in Sussex, Mr. Ellman's former county. The native name, which he gives, is no safe guide in determining the species; for the New Zealanders give the same name, "Pohoera," to at least one other species, *Charadrius obscurus*. The *Charadrius frontalis*, therefore, of Mr. Ellman, should, I think, be expunged from the list of synonyms*. In 1865, Mr. Walter Buller published an 'Essay on the ornithology of New Zealand,' in which he referred in a few words only to "*Charadrius frontalis*," remarking that the species appeared to be exclusively restricted to New Zealand. This paper was subsequently translated into German by Dr. Finsch, and appeared in the 'Journal für Ornithologie' (1867, pp. 305–347); but neither there nor in some further researches on New-Zealand birds (*op. cit.* 1868, pp. 238–245) does the Doctor remark upon this species.

At a Meeting of the Zoological Society on the 27th May last, I had the pleasure to exhibit the specimen of the bird which is here figured, together with the bills, which had been kindly forwarded to me by M. Verreaux; and I took the opportunity of remarking that the species is so rare in European collections that, besides the bird exhibited, there is but one other example in the British Museum (the history of which has been forgotten, but which was probably one of the treasures obtained in the voyage of the 'Erebus' and 'Terror'), and one in the Museum at the Jardin des Plantes, Paris (which is the type-specimen figured and referred to in the 'Voyage de l'Astrolabe').

---

* The *Charadrius frontalis* of Sundevall (Œfvers. 1850, p. 100) is *Vanellus melanopterus* of Rüppell (*teste* Gurney, Ibis, 1860, p. 217).

It now only remains for me to add what little information I have been able to collect with reference to the habits of this curious bird.

We learn from MM. Quoy and Gaimard (*loc. cit.*) that, like most other shore-birds, it is gregarious, frequenting the sea-coast in small flocks, and living probably on food similar to that sought by marine Sandpipers. Imitating the Turnstone (*Strepsilas*) in its search for this, its peculiar form of bill enables it with ease to probe the crevices of the rock or shingle and seize any lurking insect or small crustacean, affording us, in this respect, a remarkable illustration of structure adapted to the peculiar mode of life which the bird pursues.

XXVIII.—*Notes on* Mr. Lawrence's *List of Costa-Rica Birds.*

By Osbert Salvin, M.A. &c.

About a year ago Mr. Lawrence communicated to the Lyceum of Natural History of New York a paper on the birds of Costa Rica, which was afterwards published in the form of a catalogue*, being based chiefly upon specimens in the Smithsonian Institution of Washington. Mr. Lawrence's own collection furnished additional material; and the names of some birds mentioned by Dr. Cabanis were also introduced, as well as others which were, so far as I can recollect, communicated by myself to Prof. Baird, in a rough list I once drew up of some of Arcé's collections, more with the view of giving some idea of what we possessed in this country than with the intention of its ultimate publication. Amongst the last-mentioned species are some whose names were erroneously determined, others are included which should have been omitted, whilst some, again, are omitted which might have been added to the number. My present object is rather to correct the errors for which I am responsible, the specimens being now before me. At the same time I shall take the opportunity of adding remarks on other species, either in confirmation of Mr. Lawrence's views or the reverse, and thus trust I shall render his most useful Catalogue more complete than it stands at present.

---

* [This is the Catalogue before mentioned in these pages (*suprà*, pp. 110, 222.—Ed.]

I believe nearly the whole series of bird-skins contained in the Smithsonian Institution were collected in the line of country which stretches from the Gulf of Nicoya on the Pacific, across the tablelands surrounding San José and Cartago, and thence towards the Atlantic as far as Angostura and Tucurriqui in the valley of the Reventazon. Collections were also made in the Dota Mountains to the southward of this line; and the Volcano of Yrazu (or Cartago, as it is as frequently called) was also visited. Mr. Lawrence has not defined the limits of the country the birds of which he catalogues, and leaves the south-eastern boundary in some obscurity, as he includes the species collected by Warszewiez in his journey from Chiriqui to Boca del Toro, but leaves out those obtained at Chiriqui by Bridges and Mr. Hicks. The political territory of Costa Rica does not by itself form a natural zoological subdivision of the fauna of Central America; but by extending its limits northwards as far as the Lake of Nicaragua and the River San Juan, or perhaps further, and southwards so as to include the Isthmus of Panama, and perhaps that of Darien, we arrive at a section of the great Central-American Isthmus which contains a bird-fauna sufficiently peculiar to be treated as a well-defined subdivision of the bird-fauna of the whole country extending from Southern Mexico to the Isthmus of Darien. But for the present I will confine my notes, as Mr. Lawrence has done, to the birds of the State of Costa Rica, leaving a general view of the relationship of its birds for more special consideration.

Mr. Lawrence's catalogue comprises the "Land-birds" only; and he prefaces his list by enumerating the birds which have occurred in the districts adjoining Costa Rica, and which may therefore be found to frequent the country he has investigated. It does not follow of necessity that any of these birds are actually existing undiscovered in Costa Rica; but when a species has been observed both north and south of the Republic, it is very likely indeed that somewhere in its varied climate such a species may occur; where, however, a species is only to be found on one side, the chances that its range extends beyond are much more hypothetical. Mr. Lawrence gives a list of sixty-two species which *may* occur in Costa Rica. Of these, twenty-six are found both further north and further south, the rest extend their range only to the confines of the Republic*.

TURDIDÆ.

No less than five species of *Catharus* are found in Costa Rica; and a sixth, *C. griseieps,* Salv., which Mr. Lawrence omits from his possible additions, is found in Veragua. The difference observed between this when compared with Lafresnaye's type of *C. fuscata* is perhaps sexual rather than seasonal. Female *Cathari,* at least of the dark *Malacocichla* group, are usually paler on the back, and have the bill darker. The bill in some male specimens of *Catharus* is orange or yellow, as in many of the true Thrushes. Since writing my notes on Veragua birds I have seen three additional specimens of *Turdus obsoletus,* all closely resembling one another, and one of which was marked "male." I am therefore now inclined to abandon the supposition that these specimens are females of some black-coloured male of which we have not yet seen examples, and to come round to Mr. Lawrence's view that both sexes are coloured alike, and that the species must be placed near *T. grayi.*

TROGLODYTIDÆ.

There seems to be some confusion respecting the types of *Troglodytes tessellatus,* D'Orb. & Lafr. Mr. Whitely has sent in specimens from Arequipa which agree well with the Paris specimens marked *tessellatus,* collected by d'Orbigny at Tacna. These hardly differ from the Panama Wren.

---

* It may be remarked that *Pyranga hepatica* of Mr. Lawrence's Veragua list is *P. testacea,* Scl. & Salv., and *Grallaria guatemalensis* is *G. princeps,* Scl. & Salv.

MNIOTILTIDÆ.

Arcé obtained specimens of *Dendrœca vieilloti* at Tempate, on the Pacific coast. *Setophaga aurantiaca,* Baird, is exceedingly like *S. verticalis,* D'Orb. & Lafr. I cannot distinguish them with certainty. *S. flammea,* Cab. (J. f. Orn. 1861, p. 85), refers to the same species, and is not the true *flammea* of Guatemala: I have seen the Berlin specimen. *Basileuterus melanotis,* Lawr., described in the paper I am noticing, I do not know; it is said to differ from all the allied species in the decided black colouring behind the eye, in the superocular stripe being of a clear ash-colour, without any tinge of yellow or greenish, and in its paler lower plumage.

HIRUNDINIDÆ.

I cannot distinguish between *Stelgidopteryx fulvigula,* Baird, of which we have a marked specimen received from the Smithsonian Institution, and our Guatemalan examples of *S. fulvipennis,* Scl.

VIREONIDÆ.

The species obtained by Arcé at Tucurriqui and referred by me to *Hylophilus decurtatus* (or *H. cinereiceps*) must certainly be the same as Mr. Lawrence's *H. pusillus,* whichever name be adopted for the Costa-Rican bird.

The same remark applies to *Cyclorhis flaviventris* from the Gulf of Nicoya, and *C. subflavescens.* There is but one *Cyclorhis* in Costa Rica, which must be called *C. subflavescens,* Cab.

TANAGRIDÆ.

Phœnicothraupis carmioli, described in this paper, appears to be a very distinct species. We have a single specimen, also obtained by Carmiol. As Mr. Lawrence remarks, even if all the three known specimens were females, they cannot be associated with any known species.

FRINGILLIDÆ.

Amaurospiza concolor, Cab., has not been obtained by any of the Smithsonian collectors or correspondents. We have a single skin, procured on the Panama railway line.

Pyrgisoma biarcuatum and *P. kieneri* both refer to the same species, which we have called *Pyrgisoma cabanisi* (see P. Z. S. 1868, p. 324, and Exot. Orn. pl. lxv. fig. 1).

Young males and females of *Chrysomitris mexicana* have the rectrices dark, and are without the white mark observable in the male. I have some doubts as to the determination of the specimens called *C. columbiana*, and think it very possible that they should be referred to the Central-American race *C. mexicana*, and not to the New-Granadian form, which has the rectrices of a uniform black.

CORVIDÆ.

A family so largely represented in Mexico and Guatemala by a number of species, in Costa Rica contains but a single species, which should be called *Psilorhinus mexicanus*, Rüpp., as it differs from the true *P. morio*, Wagl., in having the lower parts and extremities of the rectrices white instead of sooty brown.

DENDROCOLAPTIDÆ.

Oxyrhynchus flammiceps is *O. frater*, Scl. & Salv. (P. Z. S. 1868, p. 326, and Exot. Orn. pl. lxvi.). *Picolaptes compressus* and *P. lineaticeps* of Mr. Lawrence's Catalogue both refer to the same species, which should be called *P. compressus* (Cab. J. f. Orn. 1861, p. 243).

FORMICARIIDÆ.

Thamnophilus doliatus and *T. affinis* also refer to one species, *T. affinis*, Cab. *Gymnocichla nudiceps* is *G. chiroleuca*, Scl. & Salv., a species we have only recently separated (Proc. Zool. Soc. June 1869).

TYRANNIDÆ.

The species called *Platyrhynchus cancrominus* by Mr. Lawrence is, I think, very likely to be the Ecuadorean *P. albogularis*, Scl., of which Mr. F. Godman and I have specimens, from Costa Rica and Veragua, agreeing with Mr. Sclater's types. *Mionectes olivaceus*, Lawr., is closely allied to *M. striaticollis*, Lafr., but, having the head olivaceous instead of plumbeous, is, I think, sufficiently distinct. It is also found in Veragua and Panama. *M. assimilis* and *M. oleagineus* must refer to one species; whether *M. assimilis*, Scl., can ultimately be retained as distinct from the southern bird is, I think, doubtful.

Our specimens of *Tyranniscus* from Costa Rica, including one from the Smithsonian Institution marked *T. vilissimus*, are considerably smaller than Guatemalan specimens, and, if anything, even smaller than those from Panama. Unless both races occur in Costa Rica the bird should, I think, be called *Tyranniscus parvus*, Lawr.

Rhynchocyclus griseimentalis, described from Costa Rica, I cannot distinguish from the Guatemalan bird. We have one Costa-Rican specimen, and several from Veragua, all of which agree with one another and with our series from Guatemala. Mr. Lawrence must not depend too much upon the locality assigned to his Mexican specimen. "Mexique" has a wide signification sometimes!

Mitrephorus phæocercus and *M. aurantiiventris* refer to one species, *M. aurantiiventris*, Lawr. The specimens sent by Arcé were not in good condition; and although I recognized certain differences between them and Guatemalan examples of *M. phæocercus*, I did not feel justified in describing the Costa-Rican bird.

Myiarchus panamensis, must be erased from the list for the present.

Cotingidæ.

Tityra albitorques should be *T. fraseri*, Kp. (see Scl. & Salv. P. Z. S. 1867, p. 757).

Bucconidæ.

I feel sure there have been too many species of *Malacoptila* separated. The differences noticeable will, I believe, be found in many cases to be sexual and not specific.

Monasa peruana is *M. grandior*, Scl. & Salv. (P. Z. S. 1868, p. 327).

Trogonidæ.

Mr. Lawrence has sent his types of *Trogon concinnus* to Mr. Gould for examination; and it is his opinion, and I agree with him, that this supposed species has been based upon immature specimens of *T. caligatus*, Gould. Mr. Lawrence describes the female of my *T. clathratus*; but he will find it already characterized (P. Z. S. 1867, p. 151). *Trogon bairdi*, described by Mr. Lawrence, is a fine new species bearing the same relationship to *T. venustus* (Cab.) that *T. puella* does to *T. aurantiiventris*.

TROCHILIDÆ.

Eugenes spectabilis. I do not think this species satisfactorily established as yet, and believe that it may prove to be *E. fulgens*, Sw., which *undoubtedly does occur* in Costa Rica. All the specimens of *Heliodoxa jacula* that have passed through Mr. Lawrence's hands appear to have been immature. Mr. Godman and I have specimens both from Costa Rica and Veragua possessing the bright frontal and gular spots very conspicuously. In his remarks upon the vexed question as to the position of *Oreopyra castaneiventris*, Mr. Lawrence overlooks the presence in that bird of the long postocular stripe which extends backwards from the eye. This character alone, in my opinion, shows that the bird has no near relationship to *Panterpe insignis*.

Whatever name be applied to the Costa-Rican *Heliomaster* of the *H. longirostris* group, it is very improbable that more than one is found in the country. I should, for reasons before given (P. Z. S. 1867, p. 155), call it *H. longirostris*, Vieill., while Mr. Lawrence prefers *H. sclateri*, following Cabanis. If the races are to be maintained as distinct, their range is anomalous. It is as follows:—Vieillot's *H. longirostris* is from Venezuela or Trinidad; Dr. Cabanis's *H. sclateri*, also from Venezuela, and according to both him and Mr. Lawrence from Costa Rica; Mr. Lawrence's *H. stuartæ*, from Bogota and Panama. I am not convinced that the Guatemalan *H. pallidiceps* is really separable; but as far as I can see, the head is constantly lighter in colour than in the more southern bird. *Eupherusa eximia* is probably the bird Mr. Sclater and I have recently separated as *E. egregia* (P. Z. S. 1868, p. 389).

RHAMPHASTIDÆ.

Rhamphastus approximans, Cab., if kept separate from *R. cari-*

natus, must surely be called *R. brevicarinatus*, Gould, the types of which came from Panama. Cassin's reasons for keeping three species are unsatisfactory, and to my mind point to a conclusion opposed to that at which he arrives—viz. that they should all be united.

ACCIPITRES.

Asturina nitida is *A. plagiata*, Schl. (see Scl. & Salv. P. Z. S. 1869, p. 130). *A. magnirostris* is *A. ruficauda*, Scl. & Salv. (*tom. cit.* p. 133, and Exot. Orn. pl. lxxxviii.). *Accipiter pileatus* is *A. bicolor*, Vieill. (see Scl. & Salv. Exot. Orn. pl. lxix.). *Rosthramus sociabilis*, though, doubtless, to be found in Costa Rica, must for the present be erased from the list of its birds. We have no specimen from the Gulf of Nicoya, nor can I find any mention of the species in our manuscript lists of Arcé's collections.

COLUMBIDÆ.

Chlorœnas subvinacea, described by Mr. Lawrence in the present paper, seems to be distinct from *Columba nigrirostris*, Scl. We have no specimen which we can refer with certainty to the true *C. vinacea* of Temminck, whose plate is hardly satisfactory enough to enable me to make a comparison. The three species, if there are three, are very closely allied. *Geotrygon cœruleiceps*, also described by Mr. Lawrence, is *G. chiriquensis*, Scl. (see Exot. Orn. pl. lxii.)*. *G. costaricensis*, another species of this difficult group, I do not know; it is said to belong to the group containing *G. caniceps* and *G. cristata*, and, I suppose, also *G. veraguensis*, Lawr., from the neighbouring country of Chiriqui.

CRACIDÆ.

Penelope purpurascens. Costa-Rican specimens in our collection agree with others from Panama, and differ materially from Guatemalan examples in having the lower part of the back and belly of a deep chestnut. I am not yet satisfied as to the proper designation of this bird, which may be *P. cristata*, Linn.; but it agrees fairly with Spix's figure of his *Penelope jacuaca*, and with the specimens in the British Museum thus named. *Orta-*

---

* [*Cf. suprà*, p. 110.—ED.]

lida poliocephala is *O. cinereiceps,* Gray, and belongs to the same group (with red primaries) which contains *O. garrula,* Humb. & Bonpl. The same species has also been called *O. poliocephala* by Mr. Lawrence, as well as by Mr. Sclater and myself, in our respective papers on Mr. M'Leannan's Panama collections, and by me in my list of Arcé's Veraguan birds.

Mr. Lawrence includes several species, from Warszewiez's collection, which, though belonging to the fauna, have not yet been found within the political limits of Costa Rica. They are :—

1. *Lampornis veraguensis,* Chiriqui.
2. *Chalybura isauræ,* ,,
3. *Microchæra albocoronata,* ,,
4. *Oreopyra leucaspis,* ,,
5. *Erythronota niveiventris,* ,,
6. *Sapphironia cæruleogularis,* ,,

The species to be taken out altogether are fourteen in number, viz. :—

1. *Hylophilus pusillus.*
2. *Cyclorhis flaviventris.*
?3. *Chrysomitris columbiana.*
4. *Pyrgisoma biarcuatum.*
5. *Picolaptes lineaticeps.*
6. *Thamnophilus doliatus.*
7. *Tyranniscus vilissimus.*
8. *Mitrephorus phæocercus.*
9. *Mionectes oleagineus.*
10. *Myiarchus panamensis.*
11. *Heliomaster pallidiceps.*
12. ,, *sclateri.*
13. *Trogon concinnus.*
14. *Rostrhamus sociabilis.*

The names of the following species should be changed :—

Pyrgisoma biarcuatum and *P. kieneri* to *P. cabanisi,* Scl. & Salv.
Gymnocichla nudiceps to *G. chiroleuca,* Scl. & Salv.
?*Platyrhynchus cancrominus* to *P. albogularis,* Scl.
Rhynchocyclus griseimentalis to *R. brevirostris,* Cab.
Tityra albitorques to *T. fraseri,* Kp.
Monasa peruana to *M. grandior,* Scl. & Salv.
Eupherusa eximia to *E. egregia,* Scl. & Salv.
Asturina nitida to *A. plagiata,* Schl.
,, *magnirostris* to *A. ruficauda,* Scl. & Salv.

Accipiter pileatus to *A. bicolor,* Vieill.
Geotrygon cæruleiceps to *G. chiriquensis,* Scl.
Penelope purpurascens to *P. jacuaca,* Spix ?
Ortalida poliocephala to *O. cinereiceps,* G. R. Gray.

I now add the names of a few species to the list of Costa-Rica birds which do not as yet seem to have come under Mr. Lawrence's notice :—

1. *Cacicus microrhynchus,* Scl. & Salv. Peje (*J. Carmiol*).
2. *Dendromanes atrirostris* (Lafr.). Angostura (*J. Carmiol*).
3. *Dendromanes homochrous,* Scl. Costa Rica (*J. Carmiol*).
4. *Xenops heterurus,* Cab. Costa Rica (*J. Carmiol*).
5. *Rhamphocænus rufiventris,* Bp. Bebedero (*Arcé*).
6. *Leptopogon pileatus,* Cab. Valza (*J. Carmiol*).
7. *Serpophaga cinerea.* Costa Rica (*Endrés*).
8. *Lophornis helenæ,* Delatt. Tucurriqui (*Arcé*)
9. *Petasophora delphinæ.* Costa Rica (*J. Carmiol*).
10. *Clais guimeti.* Costa Rica (*Endrés*).
11. *Conurus lineolatus.* Angostura (*J. Carmiol*).
12. *Hypotriorchis rufigularis.* Costa Rica (*J. Carmiol*).
13. *Cathartes atratus.* Costa Rica (*J. Carmiol*).

It will be seen that I leave Mr. Lawrence's list as regards numbers almost where I found it, by removing fourteen species, and replacing them by thirteen others. There are then 473 species of "Land-birds" known to inhabit Costa Rica; and if the remainder equal in number the Waders and others of Guatemala, the total number of birds constituting the avifauna of Costa Rica will reach altogether to 574 or thereabouts. If to these be added the species of the adjoining countries of Veragua and Panama, so as to include the whole of the birds of the southern section of the Central-American fauna, we have a total of 630 species.

This brief summary will give some idea of the marvellous richness of the ornithic productions of this interesting and favoured country.

XXIX.—*The Strickland Collection in the University of Cambridge.* By THE EDITOR.

(Plate IX.)

SOME time since, it was mentioned in this Journal (Ibis, 1867, p. 383) that the large ornithological collection of the late Mr. Hugh Edwin Strickland had been presented by his widow to the University of Cambridge, an assertion which may possibly have occasioned surprise to those who remembered that the author of the admirable memoir of that deeply-regretted naturalist had stated that the sister University was to be honoured by so magnificent a gift*. Oxford, however, soon evinced an indisposition to make such provision for its reception as his trustees (his father and widow) thought suitable; and when in 1865 one of them died, the survivor found the rulers of that University still uncertain as to where room for the collection could be given. Thus, it may be briefly repeated, Cambridge became the recipient of Mrs. Strickland's generosity. At first it was hoped by those who had the management of the matter that the ordinary fund by which the University Museum is supported would suffice to supply the accommodation required for this increase to its treasures; but it speedily became evident that, saddled as that fund was by the expense of erecting a large though perfectly plain building, it would be long before the cost of cabinets and other fittings could be prudently incurred. Accordingly application was made to each College in the University to subscribe in its corporate capacity to this end; and the appeal was answered (in many cases very liberally) by every College save one. The sum thus subscribed, however, was still inadequate to the object desired, and it became necessary to have recourse to the generosity of private persons, beginning with those who were or had been members of the University Thanks to the indefatigable exertions of Mr. John Willis Clark, the Superintendent of the Museums of Zoology and Comparative Anatomy, the claims of this collection as well as that of Swainson, which for over five and twenty years had been the property of the University, were so efficiently urged that upwards of £700 became available for the purpose of furnishing the accommodation necessary for duly housing these two fine collections; and then no time was lost in ordering cabinets in which their valuable contents might be properly and safely arranged.

---

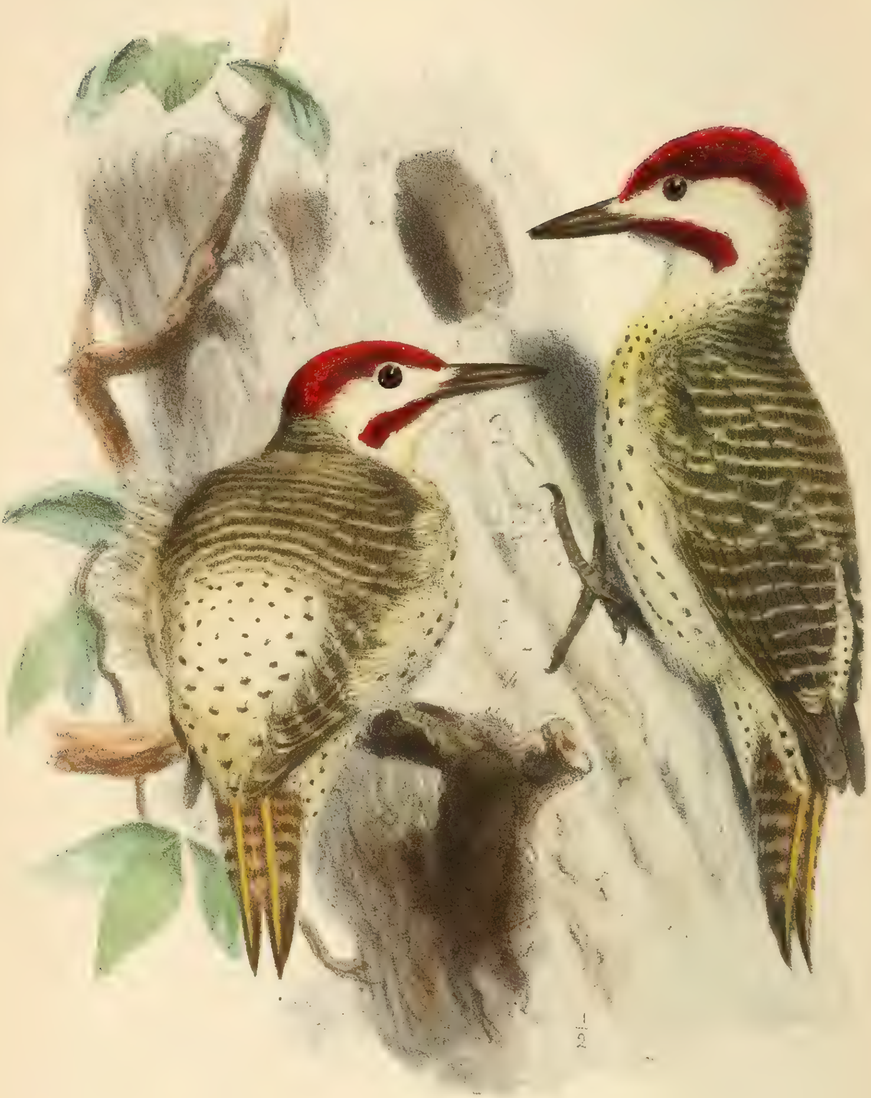
* 'Memoir of Hugh Edwin Strickland,' &c. By Sir William Jardine, Bart., F.R.S.E., &c. London: 1858, p. cclx.

It was felt to be desirable that these cabinets should be built on the very best plan available; and it did not require much time to perceive that a principle first suggested by Mr. Osbert Salvin, and adopted by him in his own collection, was that which, according to all experience, was the most suitable. This principle may be briefly described as follows:—Having decided upon a unit of size for the smallest drawer to be used, every other larger drawer should be as to its dimensions a multiple of that unit, so as to admit of the readiest interchange of drawers possible. The advantages of this principle, which several other naturalists (who had seen how admirably the plan worked in its inventor's collection) had followed, are numerous. It makes the most of the space available, and permits without trouble of a deep drawer being substituted in place of two shallow ones, a deeper still instead of three shallow ones or of two shallow drawers and a deep one, and of course the contrary. Further, by having the cabinets to consist of two stacks of drawers standing back to back, a drawer may be made of double length so as to occupy the superficial space of two ordinary ones, and yet not to interfere with the system, while such a drawer, if the unit be judiciously chosen will hold any but the skins of the very largest birds—the *Struthiones* for example. But as these forms are seldom, if ever, kept in the shape of unmounted skins, the exception is practically immaterial. In the case of the Cambridge Museum the superficial dimensions of the unit-drawer were necessarily determined by the space between the windows of the building. That which has been employed is 25¾ inches by 17½ inches, with a depth of 3 inches; and though it is astonishing how few birdskins there are that, when properly prepared, will not lie easily on such a surface, it is not to be denied that even here a unit of larger superficies would have been found in some respects more advantageous. The abominable practice followed by too many bird-skinners, that of stuffing out the skin until it becomes of preposterous size, is a vexation to every collector; and neither the Strickland nor the Swainson collection is entirely free from these awkward specimens. The process of disembowelment, however, judiciously and lovingly carried out, has restored many a "*monstrum informe, ingens*" to its natural grace, and there are very few in the Strickland collection which now require even the double superficies or the treble depth of drawer.

It must be added that each drawer has a moveable glass lid, and each cabinet a sliding door—precautions, it is hoped, which will preserve the specimens from all the ills to which skin is heir. The cabinets themselves, mostly standing at right angles to the walls of the Museum, form little compartments, the entrances to which will be further guarded by gates of open work; and thus are formed small "chapels" (so as to speak) wherein the devotees of Swainsonian or Stricklandian types may study with the greatest convenience the precious relics by which they are surrounded.

Thus much as regards the accommodation and fittings provided for these collections: a few words on the contents of Strickland's are here required. The pious care of the partner of his life has not only kept them in admirable condition and order, but has further been extended to making an accurate catalogue of them arranged according to the system adopted by him in his 'Ornithological Synonyms'—the gigantic and useful employment in which he was engaged when stricken down in the vigour of manhood by death, and the manuscript of which still remains in her hands. A copy of this catalogue has accompanied the collection; and by its means any specimen can in a very few minutes be found; for the devotion of Mrs. Strickland to her late husband's memory did not stop at the mere placing of his ornithological treasures where they will be safe and available for consultation; she spent many days in arranging them, so that the whole collection, now laid out in *one hundred and eighty-two* of the drawers described, is in perfect order, each specimen with its appended label giving all the information known concerning it.

The collection consists of *five thousand eight hundred and two*



Wolf, del et lith.

M & N Hanhart imp.

[illegible] CAPRICORNI

specimens, referable to *three thousand and thirty one* species, and is thus one of the largest ever accumulated by a private person. As may be expected from this statement it comprehends a great variety of very rare and interesting forms. Chiefest among its treasures may be mentioned *Nestor productus,* the extinct Phillip-Island Parrot: but there are many others only inferior in value to this; for here are to be found most of the types of the species described by Strickland in his numerous ornithological papers *.

I have the pleasure of being able to illustrate this short notice by a very beautiful plate of one of these types, executed many years ago by Mr. Wolf for Sir William Jardine's 'Contributions to Ornithology,' but never before published. It represents (Plate IX.) *Campethera capricorni,* described in that Journal (1852, pp. 155, 156); and to the kindness of that veteran naturalist, Strickland's father-in-law, I am indebted for the use of the stone on which the figures have been drawn; while Mrs. Strickland, heretofore known to the readers of the 'The Ibis' as an excellent artist †, has herself coloured the pattern-impression from the type-specimen, which until very lately was unique ‡. Malherbe, who had only seen a coloured copy of the accompanying plate, refused (Monographie des Picidés, ii. pp. 169, 170) to allow its specific rank, uniting it with *C. bennetti* (A. Smith); but Dr. Cabanis (Mus. Hein. iv. p. 123, note) and Mr. G. R. Gray (List B. Br. Mus. *Picidæ,* p. 81) rightly, as it seems to me, recognize its distinctness, while Prof. Sundevall, though not without a mark of doubt, does the same (Consp. Av. Picinarum, p. 64). The diagnostic remark appended to the original description (Contr. Orn. *ut suprà*) is perfectly correct. It is there said of the species:—

"Near *C. benneti* (Smith)—(*Picus guttatus,* Licht.; *C. variolosa,* Gray)—but differs in having a stouter beak, smaller spots on the breast, and the rump *spotted* instead of *barred.*"

---

* There is no need to give a list of these papers; they are all enumerated, and many of them reprinted, in the 'Memoir' before mentioned.

† Ibis, 1861, p. 184, pl. vi.

‡ The species must still be regarded as extremely rare. Mr. Sharpe informs me that he has examples from Damara Land, collected by Andersson, from whom Strickland obtained his.

The following list of references to this species may serve to make this paper of some slight practical use:—

Campethera capricorni, Strickl., Contr. Orn. 1852, p. 155; G. R. Gray, List. B. Br. Mus. *Picidæ* (1868), p. 81.

Dendromus capricorni, Bonap., Consp. Vol. Zygodactyl. (1854)* p. 9.

Chrysopicus capricorni, Malh., Monogr. Picid. (1862) ii. p. 169.

Ipagrus capricornis [!], Cab. & Heine, Mus. Hein. (1863) iv. p. 123, note.

Picus capricorni, Sundev., Consp. Av. Picin. (1866) p. 64.

Magdalene College, Cambridge,
June 11, 1869.

XXX.—*On the* Cuculidæ *described by* Linnæus *and* Gmelin, *with a sketch of the Genus* Eudynamis. By Arthur Viscount Walden, P.Z.S. etc.

(Plate X.)

It is now a quarter of a century since the rules for zoological nomenclature were promulgated by the British Association —a period sufficiently long to enable us to judge of their merits by the test of practical experience. How, then, do we now stand? To what extent have these rules been accepted, more especially the law of priority, by ornithologists at least? and how have they worked? To these two questions I believe an answer not altogether unsatisfactory may be given. The spirit of the rule of priority has more or less influenced every recent writer. One or two may have grumbled, ornithological Tories shocked at the revolutionary tendencies of the binomial principle. Some, its most ardent advocates at the time, have since viewed with rather peevish impatience discoveries of titles older than those they had accustomed themselves to regard as the oldest. Yet, on the whole, the endeavour of most ornithologists has been to discover the senior title and to adopt it; and if, now and then, the dead Fathers have been rather left to take care of themselves, yet, when modern titles have come into conflict, the right of priority has invariably been asserted by the living author who felt his claim assailed.

---

* Originally published in 'L'Ateneo Italiano,' no. 8, May 1854 (*fide* Carus and Engelmann, Bibl. Zoogr. p. 115).

But in the practical working of the rules the results are not as great as, after so many years of trial, we might fairly have expected. For this one reason is to be found in that rule which leaves it optional to authors to alter the old titles they do not consider appropriate. Thus the door is opened for the admission of every caprice, and confusion necessarily follows. What is first required is to ascertain and indisputably establish by universal agreement the oldest title of every species. When that is done it will be time enough to decide what titles are to be retained and which are to be rejected. But the principal reason why ornithological nomenclature has not reached the advanced position we wish it to occupy—the position of a cosmopolitan language conveying definite and identical ideas to all minds, is because no systematic effort has as yet been made to determine *all* the species of the older authors and place their titles as a whole on a firm foundation. To Sundevall, Pucheran, and Gray we are greatly indebted for the immense labour they have expended on their respective endeavours to identify the species of Sparrman and Le Vaillant, of Cuvier, Vieillot and Lesson, and of Buffon, Temminck, Le Vaillant, Edwards and Vieillot; while Moore and Cabanis, Hartlaub, Malherbe and Finsch have devoted an amount of sound labour on the nomenclature of the species they have to deal with, which can only be thoroughly appreciated by those who are well acquainted with their work. Nor must we forget the late Mr. Strickland and, alas! Mr. Cassin. Yet the foundation of a correct system of nomenclature cannot be said to have been laid until the whole of the species enumerated in the XIIth and XIIIth editions of the 'Systema Naturæ,' the very corner-stone of the structure we desire to raise, have been either identified or disposed of. As a slight contribution to a work of this nature I purpose in the following pages to attempt the identification of the species belonging to the modern family of the *Cuculidæ* described in these two editions of the 'Systema.'

In the XIIth edition twenty-two species were enumerated by

Linnæus under his genus *Cuculus*, and received titles; and one species was added as a variety. Of these, three belong to other genera, and of the remaining nineteen titles eleven have been more or less satisfactorily identified, leaving eight designations either undetermined or wrongfully or doubtfully applied. Two of these undetermined titles were based on species originally described, one by Marcgrave, the other by Seba, at a date when imagination was largely drawn upon for facts. Still *Cuculus cornutus* may yet perhaps be found among the American Trogons, although *C. brasiliensis*, founded on Seba's description and figure*, is, I very much fear, a hopeless case. The plate represents a crested bird of a dingy carmine colour, with yellowish wings and tail, the bill stout, curved, and short, the feet with *three* toes in front encircling a branch. It is singular that Brisson, who never saw a specimen of this bird, and took his description from Seba, should have given not only the length of each toe, but should also have alluded to them in pairs as anterior and posterior. Buffon, who termed Seba's bird *Le Couroucoucou* (Hist. Nat. vi. p. 298), considered it a link between the Trogons and the Cuckoos, "En supposant que son indication donnée par Seba soit moins fautive et plus exacte que la plupart de celles qu'on trouve dans son gros ouvrage" †.

C. dominicus, L., ex Brisson (Ornith. iv. p. 10), who described either from a Guianian or a Louisianian example, or else from one from St. Domingo in M. de Réaumur's cabinet, thus confounding the three, but not telling us from which individual he made his description. Dr. Cabanis (Mus. Hein. iv. p. 75), considers Brisson's *C. dominicensis* to be the same as *C. ameri-*

---

* (Rer. Nat. Thesaurus, i. p. 102, t. 66. f. 2.) "Rostrum ejus dilutè rubrum, breve, et incurvum est, quale Pseudo-Psittacorum. Caput, pariter dilutè rubrum, cristâ ornatur saturatius rubente, ex nigris variegatâ. Dorsum quoque saturatè rubicundum est: at dilutiorem ventris ruborem nonnullæ distinguunt plumulæ flaventes. Alas dilutè rubentes suprà investiunt pennæ, flaventibus etiam aliis interstinctæ. Pennas remiges, longamque caudam, saturatè flavo conspicuas colore, umbra quasi nigricans obfuscat."

† Conf. *Columba adfinis*, Mœhring, Av. Gen. 103, not to be confounded with *Cuculus adfinis* of the same author (*C. persa* L.), Hermann, Tab. affin. animal. p. 184.

canus, L., ex Catesby (N. H. Carol. i. p. 9, t. 9). From this view Mr. Sclater (P. Z. S. 1864, p. 119) differs. I must leave it to others to decide between these two high authorities.

Crotophaga ambulatoria, L., seemingly an original description, can be nothing but *C. ani,* L. I introduce it here, belonging as it does to the modern family of the *Cuculidæ.*

The next six species are from the east; and five, if not all six, belong to the genus *Eudynamis.* They are:—

1. *C. honoratus,* L., ex Briss. Orn. iv. p. 136, no. 15, descr. orig.
2. *C. scolopaceus,* L., ex Edw. Birds, ii. p. 59, descr. orig.
3. *C. niger,* L., ex Edw. p. 58, t. 58, descr. orig.
4. *C. orientalis,* L., ex Briss. p. 142, no. 18, descr. orig.
5. *C. punctatus,* L., ex Briss. p. 134, no. 14, descr. orig.
6. *C. mindanensis,* L., ex Briss. p. 130, no. 12, descr. orig.

The species to which Linnæus gave the title of *honoratus* was described by Brisson from a drawing made by Poivre of the living bird. Brisson says "Habitat in Malabaria, ubi honores ipsi redduntur." Hence the Linnæan title. No modern author, I believe, has confirmed this statement; but Latham, from an independent source, mentions that the "Coweel" (*C. indicus,* Lath.) is held in veneration by the Mahometans. Vieillot (N. Dict. viii. p. 227) informs us that "cet oiseau, qui doit son nom à la mélodie et à l'étendue de sa voix, est en vénération dans la presqu'île de l'Inde." He adds that its flesh, which is blackish, tender, and agreeable to the taste, is much sought after by those natives who, not over nice, are rich enough to pay for a "Cuil," which is always sold at a high price. He goes on to quote, from the 'Essais philosophiques sur les mœurs de divers animaux étrangers,' this native proverb, "C'est un grand bien de manger le cuil, mais un grand péché de le faire tuer." Stephens accounts for the superstition by supposing that it is because this bird "feeds on reptiles of the more noxious kinds and insects." Some of the Indian correspondents of 'The Ibis' will perhaps let us know how much of all this we are to believe. Recent authors maintain that the Koel is frugivorous.

There can be no doubt, after reading Brisson's description, that the bird Poivre figured was either a female or a young male of the common Indian *Eudynamis*. Brisson, moreover, states that the inhabitants of Malabar call this bird "Cuil."

The specimen which Edwards figured in his 59th plate, and on which Linnæus founded *C. scolopaceus*, came from Bengal, and was lent to Edwards by Mr. Daudridge, of Moorfields. I find some difficulty in identifying it. Dr. Cabanis (Mus. Hein. iv. p. 49) refers it without hesitation to the female of the Indian Koel; and I would gladly concur if the account and figure given by Edwards left no doubt on the matter. But that author's description is so vague that it may be applied with more or less probability to other species of Cuckoos known to inhabit Bengal. The plate represents a bird of a general rufous or bay colour, while in the description the body-colour is stated to be brown. The figure will pass for any Cuckoo in the *hepatic* phase of plumage; on the other hand the bill, as figured and described, most nearly agrees with that of the Koel. The reasons Edwards gives for not regarding Mr. Daudridge's bird as the same as *C. canorus* only increase our difficulty:—"This bird being more like the common Cuckoo than the others here described*, it may be thought the same by slight observers of nature, so it will be proper to observe in what they chiefly disagree. First it is less by a full third part, though, by reason of the superior length of the tail, this bird is an inch or more longer than the common Cuckoo; that is white, with regular continued transverse lines, on the under side, from the breast downward; this hath the belly and under side white mixed with orange, and sprinkled with black spots: that hath bright gold-coloured legs; this hath them of a dirty yellow, rather inclining to green; but I am more certainly convinced, who have seen and compared the birds together, than another can be by my persuading him to be of my opinion: the tail-feathers of the common [Cuckoo] are tipped with white, but in this there is no appearance of it." If a *Eudynamis*, it would seem unnecessary to prove that it is not the same as *C. canorus*. Mr. Gray (Gen. B. App. p. 42) refers Edwards's 59th plate to *Eudynamis orientalis*, meaning the common Indian Koel.

C. niger, L., offers less difficulty. The type was likewise supplied to Edwards by Mr. Daudridge, who obtained it from Bengal, " where it is called in the country language Cukeel." It is thus described:—" The head, body, wings, and tail are covered in every part with deep black feathers, without any mark or spot of other colours; . . . . . the feathers have a shining lustre on them." This can only apply to the Koel; and in this identification I am happy to agree with Dr. Cabanis (*l. c.*), who was the first to point out the " unglücklicher Missgriff," of Mr. Blyth in identifying *C. tenuirostris**, J. E. Gray (Ill. Ind. Zool. ii. t. 34. f. i. 1833), with it.

---

* Namely, *C. persa*, L., *C. glandarius*, L., and *C. niger*, L.

The next title, *C. orientalis*, L., has hitherto been the one adopted by Indian authors for the Indian Koel. Brisson originally described the bird on which Linnæus founded the above title from a specimen in M. de Réaumur's possession, sent to him by Count Bentinck, who received it from " les Indes Orientales." The description is that of an adult male *Eudynamis*; but as no definite *habitat* is given, its identification cannot be demonstrated by direct proof. Yet, by implication, we may fairly infer, from the account Brisson gives of the individual on which Linnæus based his *C. punctatus*, that both birds belong to one and the same species. Now the subject of this last title was also obtained from the East Indies by Count Bentinck, and given to M. de Réaumur. It was a skin of a young male or nearly adult female; and the description, while in no way agreeing with what we find in the Indian species, does tally with the marked characteristics which distinguish the females and young of *E. ransomi*, Bp., or at least of the group of which it is typical, if there is more than one species, as there is reason to believe. The following are the grounds for concluding that *C. indicus niger*, Briss. (= *C. orientalis*, L.), and *C. indicus nævius* Briss. (= *C. punctatus*, L.), are nothing but the same species in different phases of plumage—the black and the spotted. They both were sent to the Dutch Count Bentinck, who gave them to M. de Réaumur. The measurements, as given by Brisson, of the two are almost identical. These dimensions are much larger than those of any other species of *Eudynamis.* The length of the bills he states respectively as 1 inch 5 lines and 16 lines, of the tails, 8 inches 4 lines and 8 inches, and so on. These reasons may perhaps not appear conclusive of the identity of the adult male *C. orientalis* with *C. punctatus*; but it is also the opinion of Dr. Cabanis*, who has studied this group with great research. Moreover *C. punctatus,* L., has been referred by Müller, Bonaparte, and others to either one or other of the Koels inhabiting the Moluccan Islands; and even if it be not admitted that *C. orientalis,* L., is the adult male of *C. punctatus,* L., there can be no doubt that it is not the Indian, Cingalese, Malayan, Javan, Philippine or Australian bird—unless, indeed, we are to follow Professor Schlegel (Mus. P.-B. *Cuculi,* pp. 16–20), and include all individuals of the genus (*E. melanorhyncha,* Müll., excepted) under one species.

---

* *Polyphasia nigra*, Jerdon (B. Ind. i. p. 333), which must stand as *Cacomantis passerinus* (Vahl, Skr. Nat. Selsk. iv. 1. p. 57, 1797), according to Dr. Cabanis. Those who agree with Mr. Blyth in the generic distinction of this species will have to adopt the generic title of *Ololygon*, Cab. (*t. c.* p. 20, note), in lieu of *Polyphasia*, Blyth, previously employed by Stephens, 1829.

The account of *C. mindanensis,* the last of the Linnæan species referable to *Eudynamis,* is also to be found in Brisson. That exact and trustworthy author described the species from a specimen in M. d'Aubry's cabinet, which came from the Island of Mindanao.

During the twelve years that elapsed before Gmelin published his XIIIth edition of the 'Systema Naturæ,' great progress was made in the discovery of new species of birds. A number of authors rose on the ornithological horizon; and from their works Gmelin extracted descriptions of twenty-four species (additional to the Linnæan) and ten varieties belonging to the *Cuculidæ,* one species of *Crotophaga,* and two species of the *Cuculidæ* which he erroneously classed under other genera, while two species referred by him to *Cuculus* belong to other groups. But out of the whole number of twenty-nine species only nine can retain Gmelin's titles; for the remainder are either duplicates, or their designations are forestalled by previous authors, or else have been raised to generic rank.

---

* When engaged some time ago in working out the synonymy of the species belonging to the genus *Eudynamis,* I arrived at the above conclusion before I had referred to the 'Museum Heineanum:' and my satisfaction was great on finding that Dr. Cabanis had independently adopted a similar view.

The following titles were given to doubtful species, or have not been correctly applied:—

C. bengalensis, Gm., ex Brown, Ill. p. 26, t. 13. fig. inf. from Bengal. A *Centropus* in striated plumage, either a young male or a young female; for the phases of plumage in this species, and what they denote, have yet to be investigated by naturalists on the spot. The figure is clearly that of the Lesser Indian Coucal, *Centropus viridis,* Jerdon (B. Ind. i. p. 350). The true *C. viridis* (Scop.) must be compared before we can decide whether the Indian and Philippine birds are identical. Prof. Schlegel keeps them separate, but, under the name of *C. rectunguis,* Strickl., unites (*op. cit.* pp. 67–70) the Bengal bird with forms from many other localities which have been described as distinct—among them the West-African *C. grilli,* Hartl.

C. panayanus, Gm., ex Sonn. Voy. p. 120, t. 78, from the Island of Panay. A *Eudynamis,* a female or young male, no doubt the same as *E. mindanensis* (L.).

C. maculatus, Gm., ex Buff. Pl. Enl. t. 764, from China. A young male, or a female *Eudynamis.* On the assumption that the Philippine bird migrates to China, and is the only species found in that country*, I refer this title to *E. mindanensis* (L.): anyhow it forestalls *E. chinensis,* Cab. & Heine (Mus. Hein. iv. p. 52).

C. orientalis, L., var. *β,* Gm., ex Buffon, Hist. Nat. Ois. vi. p. 383, Coukeel, no. 2. A *Eudynamis* in full male black plumage, from Mindanao, and therefore *E. mindanensis* (L.).

C. radiatus, Gm., ex Sonn. Voy. p. 120, t. 79, as yet not perfectly recognized. The type is from Panay. Strickland, it is true (J. A. S. B. 1844, p. 390, note), has stated that it is a good species, and that he possessed a specimen from Malacca "exactly agreeing with Sonnerat's description," except that the tail was not even. Dr. Cabanis (*t. c.* p. 29) suggests that Sonnerat described from a made-up specimen. Until we are better acquainted with the ornithology of the Philippines, it will be best not to hazard an opinion. Unfortunately Sonnerat is not to be trusted.

---

* *Conf.* Swinhoe, Ibis, 1861, p. 46; P. Z. S. 1863, p. 264. Mr. Blyth (Ibis, 1865, p. 32) refers the Chinese bird to *E. australis,* Swains., from Australia. Mr. Swinhoe (Ibis, 1866, p. 131) states that the Philippine and the Siamese *Eudynamis* are the same species.

C. flavus, Gm., ex Sonn. Voy. p. 122. t. 81. The original description is by Sonnerat, who gives the Island of Panay as the *habitat.* But Gmelin first cites "Pl. Enl. 814", an original drawing from an individual whose derivation is not known, unless we may assume that it was Sonnerat's specimen. Montbeillard (Hist. Nat. Ois. vi. p. 382) quotes Sonnerat's description word for word. Sonnerat's bird belongs to the group of small grey-breasted, rufous-bellied Cuckoos, which extend throughout the Indian Archipelago. Until examples are brought together from all localities and compared, the synonymy of the group cannot be determined. Prof. Schlegel (*t. c.*) regards them all as belonging to one species. Philippine specimens exist at Leyden; and Dr. von Martens procured it at Manilla (Journ. f. Orn. 1866, p. 19).

C. lucidus, Gm., ex Lath. Syn. ii. pt. 2. p. 528, no. 24, t. 23, from New Zealand (*nec* Cab. *t. c.* p. 14). This title applies to the New-Zealand *Lamprococcyx* only.

C. melanoleucus, Gm., founded on Montbeillard's description of a specimen sent by Sonnerat from Coromandel, and Pl. Enl. 872, erroneously referred by Mr. Gray (Gen. B. ii. p. 464) to *C. serratus,* Sparrm. Boddaert's title, *C. jacobinus,* founded on the same plate, takes precedence. I have failed to detect the slightest difference between the plumage of adult birds from South Africa (*Coccystes hypopinarus,* Cab. & Heine, *t. c.* p. 47) and from India and Ceylon. The South-African bird, however, possesses a somewhat stouter bill, and a longer wing and tail. I have compared a large series of Cingalese individuals with specimens from Malabar, Candeish, Simla, and north-eastern India, and have found the Cingalese form slightly smaller in all its dimensions. It is the Ceylon Cuckoo of Latham (Gen. Hist. iii. p. 291). *C. pica,* Hemp. & Ehrenb., from north-eastern Africa, is doubtfully distinct.

C. canorus, L., var γ, Gm. ex Beseke, Schr. Berl. Naturf. Ges.

vii. p. 452, seems to be nothing more than a variety described from Courland. Beseke's account has been ignored by the authors I have had opportunities of consulting (*conf.* Beseke, Vög. Kurl. nos. 53, 54).

C. madagascariensis, Gm., var *β,* description taken, but not acknowledged, from Montbeillard (*t. c.* p. 364), who quotes from a note made by Commerson. This traveller found it in company with *C. gigas,* Bodd. "Il a sur la tête un espace nu," lightly furrowed, coloured blue, and surrounded by feathers "d'un beau noir," those of the head and neck silky. Some bristles round the base of the bill. Inside of mouth and tongue black. Tongue forked. Irides reddish. Thighs and inside of the quills blackish. Feet black. Nearly of the size of a fowl. Weight 13½ ounces. Total length 21¾ inches. Bill 19 lines, "ses bords tranchans." The nostrils similar to those of gallinaceous birds. Eighteen quills in the wing. Wings extended, 22 inches. The outer posterior toes capable of being brought forward. The size of this species, together with its possessing a naked space of blue skin on the head, identifies it with *Coccyzus delalandii,* Temm. Pl. Col. 440, from Madagascar (1827).

C. punctulatus, Gm., founded on Latham's "Punctuated Cuckoo" (Syn. i. pl. 2, p. 541. no. 39), described from a specimen he had received among "various other birds from Cayenne." Mr. Sclater considers it to be *Diplopterus nævius* (L.), in adolescent plumage.

C. ridibundus, Gm., a bird of Mexico, founded on the "*avis ridibunda*" of the ante-Brissonian authors. Hernandez (Hist. Nov. Hisp. cap. clxxix. p. 49) says that before the introduction of the true faith it passed for a bird of bad omen. It is apparently *C. mexicanus,* Swainson (Phil. Mag. i. p. 440, 1827).

C. nævius, L., var. *β,* Gm., founded, but without acknowledgment, on Sonnini's "*Oiseau des barrières*" (Montbeillard, *op. cit.* v. p. 412), "common in Guiana and Cayenne," is possibly *C. nævius,* L., in some hitherto unrecognized phase of plumage. Dr. Sclater is unacquainted with it; and it does not appear to have been identified by any author. If distinct, it will stand as *C. septorum,* Vieill., Enc. iii. p. 1343.

C. dominicus, L., var. *β*, Gm., also taken from Montbeillard (*t. c.* p. 413) and without acknowledgement. Described from "*le petit Coucou gris*" of M. Mauduit's cabinet, which is stated only to differ from "*le Cendrillard*" of Montbeillard (*C. dominicus*, L.) by being a little larger, having a slightly shorter bill, and the entire under surface white. The origin of Mauduit's specimen is not stated. It does not seem to have been recognized by any author; nor does its description agree with any species known to Dr. Sclater.

C. cayanus, L., var. *γ*, Gm. ex Montbeillard (*t. c.* p. 416), but unacknowledged. Lesson (Tr. d'Orn. p. 140, 1831) identified a Cayenne individual with Gmelin's species, and entitled it *Piaya brachyptera*. The species had previously, and has since, received several different titles, the oldest of which, *C. melanogaster*, Vieill. (Dict. Class. H. N. iv. p. 570), stands—unless indeed Vieillot's bird be not in reality *Rhinortha chlorophæa* (Vig.), with which it very closely agrees, the red bill excepted. Vieillot states that his type came from Java.

Trogon maculatus, Gm., ex Brown, Ill. p. 26, t. 13. fig. super. from Ceylon; a *Lamprococcyx* in spotted immature plumage. Gmelin's title was altered to *Chrysococcyx smaragdinus* by Mr. Blyth (J. A. S. B. 1846, p. 53) as inapplicable, although Brown's figure "certainly represents a variety or incidental state of plumage of this species." Mr. Moore also considered Gmelin's designation "quite inapplicable," but rejected that of Mr. Blyth as previously employed by Swainson, and substituted *Chrysococcyx hodgsoni* (Cat. E. I. Co. Mus. ii. p. 705, 1856–8). Dr. Cabanis, who quotes Brown and Gmelin with doubt, separates *Chalcites smaragdinus*, Sw., generically from the Indian bird, and therefore restores Mr. Blyth's title. The name given by Gmelin appears to me quite as applicable as either of the two more recent ones, and I therefore shall retain it. Should Continental specimens differ specifically from Cingalese, Mr. Blyth's name would stand for the Indian bird.

I shall now subjoin a list of the Linnæan and Gmelinean species referred to their correct genera, with the titles they will have to bear.

Species enumerated under the genus *Cucullus*, L., in the Twelfth Edition of the "Systema Naturæ" (1766) :—

1. *Cuculus* CANORUS, L., "Europa."
2. *C.* (*Eudynamis*) ORIENTALIS, L., "Ind. orient."
3. *C.* (*Eudynamis*) MINDANENSIS, L., "Ins. Philipp."
4. *C.* (*Saurothera*) VETULA, L., "Jamaica."
5. *C.* (*Coccystes*) GLANDARIUS, L., "Africa septentr., Eur., austr."
6. *C.* (*Centropus*) SENEGALENSIS, L., "Senegalia."
7. *C.* (*Eudynamis*) HONORATUS, L., "Malabaria."
8. *C.* (*Eudynamis*) *punctatus*, L., "Ind. orient." = *C.* ORIENTALIS, L.
9. *C.* (*Diplopterus*) NÆVIUS, L., "Cayania."
10. *C.* (*Coccygus*) AMERICANUS, L., "Carolina."
11. *C.* (*Eudynamis* ?) *scolopaceus*, L., "Bengala." = *C.* HONORATUS, L.
12. *C.* (*Eudynamis*) *niger*, L., "Bengala." = *C.* HONORATUS, L.
13. *C.* (*Coccygus*) *dominicus*, L., "Dominica, Ludovicia." = *C.* AMERICANUS, L. ?
14. *C.* (*Piaya*) CAYANUS, L., "Cayana."

14 bis. *C. cayanus*, var. β, L. = *Piaya* MINUTA, Vieill.

15. *C.* (*Coua*) CÆRULEUS, L., "Madagascaria."
16. *C.* (*Urocissa*) SINENSIS, L., "China."
17. *C.* (*Turacus*) PERSA, L.*, "Guinea."
18. *C.* (—— ?) BRASILIENSIS, L., "Brasilia."
19. *C.* (*Coua*) CRISTATUS, L., "Madagascaria."
20. *C.* (*Coccystes*) COROMANDUS, L., "Cormandel."
21. *C.* (*Trogon* ?) CORNUTUS, L., "Brasilia."
22. *C.* (*Dissemurus*) PARADISEUS, L., "Siam."

To these must be added the species classed by Linnæus in his genus *Crotophaga*.

---

* On the true *C. persa*, L., see Rüppell, Archiv für Naturgesch. xvii. i. p. 316, also Hartlaub, *op. cit.* xviii. i. p. 18, and Contr. Orn. 1852, for translation. See likewise Swainson, B. W. Afr. i. p. 225, and Verreaux, Rev. Zool. 1851, p. 257. The subject has been much discussed, yet not exhausted. The species figured and described by Albin (Birds, ii. p. 18, t. 19. 1738) must be regarded as the Linnæan type, and not, as has hitherto been done, that of Edwards.

1. *Crotophaga* ANI, L., "Africa (!), America."
2. *C.* (—— ?) *ambulatoria,* L., "Surinam." = *C.* ANI, L. ?

Additional species incorporated by Gmelin in the Linnæan genus *Cuculus,* in his Thirteenth Edition of the "Systema Naturæ" (1788).

1. *Cuculus canorus,* L., var. *β,* Gm. = *C.* CANORUS, av. juv.
2. *C. canorus,* L., var. *γ,* Gm. = *C.* CANORUS, L. ?
3. *C. capensis,* Gm., "Cap. bonæ spei" = *Cuculus* CAPENSIS, Müller (1776).
4. *C. orientalis,* L., var. *β,* Gm., "India" = *C.* MINDANENSIS, L.
5. *C.* (*Hyetornis*) PLUVIALIS, Gm., "Jamaica."
6. *C.* (*Coccyzus*) MINOR, Gm., "Cayenna." = *Cuculus seniculus,* Lath. (1790).
7. *C.* (*Coccystes*) *serratus,* Gm., "Cap. bonæ spei" = *C.* SERRATUS, Sparrman (1786).
8. *C.* (*Eudynamis*) *tahitius,* Gm., "Ins. Societatis." = *C.* TAITIENSIS, Sparrman (1787).
9. *C.* (*Centropus*) BENGALENSIS, Gm., "Bengala."
10. *C.* (*Eudynamis*) *panayanus,* Gm., "Ins. Panay." = *C.* MINDANENSIS, L.
11. *C. nævius,* L., var. *β,* Gm., "Gujana" = *Coccyzus septorum,* Vieill. = *C.* NÆVIUS, L. ?
12. *C.* (*Diplopterus*) *punctulatus,* Gm., "Cayenna ?" = *C.* NÆVIUS, L., av. juv. ?
13. *C.* (*Piaya*) RIDIBUNDUS, Gm., "Nova Hisp." = *C. mexicanus,* Sw. ?
14. *C. guira,* Gm., "Brasiliæ silvis." = *Guira* PIRIRIGUA (Vieill.)
15. *C.* (*Eudynamis*) *maculatus,* Gm., "Sina." = *C.* MINDANENSIS, L.
16. *C.* (*Coccystes*) *ater,* Gm., "Prom. bonæ spei." = *C.* SERRATUS, Sparrman.
17. *C.* (*Coccystes*) *melanoleucus,* Gm., "Coromandel." = *Cuculus* JACOBINUS, Bodd. (1783).
18. *C.* (*Coccystes*) *pisanus,* Gm., "Pisis." = *C.* GLANDARIUS, L.
19. *C.* (*Coua*) *madagascariensis,* Gm., "Madagasc." = *Cuculus* GIGAS, Bodd. (1783).

20. *C. madagascariensis*, var. *β*, Gm., "Madagasc." = *Cochlothraustes* DELALANDII, (Temm.) ?

21. *C. dominicus*, L., var. *β*, Gm. = —— ?

22. *C. cayanus* L., var. *γ*, Gm. = *Piaya* MELANOGASTER (Vieill.), *fide* Cabanis.

23. *C.* (*Monasa*) *tranquillus*, Gm., "Cayenna." = *Cuculus ater*, Bodd. (1783). = *C.* NIGER, Müller (1776).

24. *C.* (*Chelidoptera*) *tenebrosus*, Gm., "Cayenna." = *Cuculus* TENEBROSUS, Pall. (1782).

25. *C.* (*Phœnicophaes*) *pyrrhocephalus*, Gm., "Zeylon." = *Cuculus* PYRRHOCEPHALUS, Forst. (1781).

26. *C.* (*Leptosomus*) *afer*, Gm., "Madagasc." = *Cuculus discolor*, Herm. (1783). = *Cuculus* ÆNEUS, Bodd.* (1783).

27. *C. afer*, Gm., var. *β*, "Madag." = *C.* ÆNEUS, Bodd.

28. *C. indicator*, Gm., "Africa." = *Indicator* SPARRMANI, Stephens (1815).

29. *C.* (*Centropus*) ÆGYPTIUS, Gm.†, "Ægypto."

30. *C. ægyptius*, Gm. var. *β*, "Ins. Philipp." = *C. philippensis*, Cuv. (1817) = *C.* (*Centropus*) VIRIDIS, Scop. (1786).

31. *C. ægyptius*, Gm., var. *γ*, "Ins. Antigua." = *C.* (*Centropus*) VIRIDIS, Scopoli.

32. *C.* (—— ?) *radiatus*, Gm., "Ins. Panay." = *Cuculus* FLAVIVENTRIS, Scop. (1786).

33. *C.* (*Cacomantis*) *flavus*, Gm., "Ins. Panay." = *Cuculus* MERULINUS, Scop. (1786).

34. *C.* (*Lamprococcyx*) *auratus*, Gm., "Cap. bonæ spei." = *Cuculus* CUPREUS, Bodd. (1783).

35. *C.* (*Lamprococcyx*) LUCIDUS, Gm., "Nova Seelandia."

36. *C.* (*Centropus*) *tolu*, Gm., "Madagasc." = *Cuculus melanorhynchus*, Bodd. (1783) = *Cuculus* TOULOU, Müller (1776).

Crotophaga.

1. *Crotophaga* MAJOR, Gm., "Cayenna."

---

* This title, given by Boddaert, has hitherto been overlooked, possibly because he omitted his usual suffix of "*mihi*." As it and Hermann's bear the same date, and as the latter author seems to have given his name incidentally, I retain that of the Dutch naturalist.

† I admit this title on the assumption that the North-African *Centropus* differs specifically from that of West Africa, *C. senegalensis* (L.).

Species belonging to the *Cuculidæ*, but classed by Gmelin under other genera:—

1. *Trogon* (*Lamprococcyx*) MACULATUS, Gm., "Zeylon."

2. *Phasianus* (*Geococcyx*) MEXICANUS, Gm., "Nov. Hispan. calidioribus."

The species of the genus *Eudynamis* have remained in so much confusion, partly in consequence of the males being clothed in a uniform black garb, while the females and young males assume a spotted and barred or otherwise variegated plumage, that I avail myself of this opportunity to offer a sketch of the group. It must be remembered that the adult males are only to be distinguished specifically by their respective dimensions, the relative proportions of their dimensions, and by the form, and in two, if not in more instances, by the colour of the bill. Perhaps in some species the practised eye may safely rely on the nature of the iridescent hues of the plumage. But it is in the colouring, and its distribution, of the young birds and adult females that the most distinct and palpable difference prevails. A superficial observer might, for instance, confound the adult males of *E. honorata* (L.) and *E. ransomi*, Bp., but never the females and young birds.

1. EUDYNAMIS HONORATA*, (L.), ex Briss. iv. p. 136, no. 15, "Malabaria," ♀ vel av. juv.

Cuculus niger, L., ex Edw. Birds, p. 58, t. 58, "Bengala," ♂ adult.

? *C. scolopaceus*, L., ex Edw. p. 59, t. 59, "Bengala," ♀ vel av. juv.

C. indicus, Lath., Ind. Orn. i. p. 211, no. 11, ex Lath. Syn. Sup. p. 99 (1790), "India," ♂ adolesc.

C. orientalis, L. var. γ, Lath., Ind. Orn. i. p. 211, "Bengala," ♂.

? *C. crassirostris*, Steph., Gen. Zool. ix. pt. 1. p. 86 (1815), ex Le Vaill. Ois. d'Afr. v. p. 59, t. 214, "Africa" (!). Bengala ♂.

? *C. crassirostris*, Vieill., N. Dict. viii. p. 229, ♀ (1817), ex Le Vaill. (*l. c.*).

---

* I give *honorata*, L., precedence, as it comes first in the 'Systema.'

Eudynamis ceylonensis, Cab. & Heine, Mus. Hein. iv. p. 51, note (1862), "Ceylon," ♂ adult.

E. orientalis, (L.), Jerd., Birds of Ind. i. p. 342. no. 214.

E. nigra, (L.), Cab., *t. c.* p. 49, "Ostindien."

Hab. in India, Ceylon.

The common Koel of India, the lower ranges of the Central and Eastern Himalayas excepted. Out of a large series of Ceylon specimens I have not found one that differed in the least from the Peninsular bird. The eastern range of this species is not satisfactorily determined; but I question whether it crosses the Brahmapootra.

2. EUDYNAMIS MALAYANA, Cab. & Heine, Mus. Hein. iv. p. 52, "Sumatra," ♂ adult., ♂ adolesc. (?) 1862–3.

A Koel closely allied to *E. honorata*, as I restrict it, but larger in all its dimensions, and with a conspicuously longer and stouter bill, inhabits Nipaul and Tenasserim. The Sumatran Koel is likewise regarded as distinct by Dr. Cabinis, and will probably be found to agree with the species from the localities I have named. Dr. Cabanis states that the Sumatran bird is larger, but that in all other respects it is the same as *E. honorata* as above. But a rigid comparison of a large series of specimens has yet to be made before the latter part of this assertion can be taken for granted. Indian Ornithologists might greatly assist us by studying and recording the phases of plumage the Koel passes through before arriving at maturity.

These are the principal dimensions of the Indian, Javan, and Australian species:—

	Longitudo		
	rostr. a nar.	al.	caud.
E. honorata (L.), Candeish ♂ adult	0·64	7·25	7·85
?*E. malayana*, Cab., Java ♂ adult	0·90	8·00	8·50
E. cyanocephala, Lath., Queensland........	0·81	8·13	8·25

Javan examples are remarkable for the length and stoutness of the bill; with a shorter wing and tail than in *E. ransomi*, Bp., from Ceram, the bill is larger and deeper in the Javan bird. I have not seen specimens in the female or adolescent male plumage, nor have I been able to compare Javan with Sumatran specimens; but it is probable that the races from the two islands will be found to differ. From the bill being so conspicuously large, I strongly suspect that Javan examples furnished Le Vaillant with the subject of his "Coucou à gros bec," plate 214, in which case it would stand as *E. crassirostris* (Steph.).

3. Eudynamis mindanensis (L.), ex Briss. iv. p. 130, no. 12, "Ins. Mindanao," ♀ adult., vel ♂ adolesc.

C. variegatus, Scop., Fl. & Faun. Insub. ii. p. 89, no. 2 (1786), ex Sonn., Voy. Nouv. Guin. p. 120, t. 78, "Antigua," ♀ vel ♂ adolesc.

C. panayanus, Gm. ex Sonn., *l. c.*

C. maculatus, Gm. ex Buff. (Montb.), Hist. Nat. Ois. vi. p. 378; Pl. Enl. 764: "China," ♀ vel ♂ adolesc.

C. maculatus, Bodd. ex Buff. Pl. Enl. 764 (1783).

C. orientalis, L., var. *β*, Gm. ex Buff. (Montb.) *l. c.* p. 383, no. 2, Mindanao, ♂ adult.

E. chinensis, Cab. & Heine, Mus. Hein. iv. p. 52, note, "Canton," ♀ ♂.

E. orientalis (L.), Swinh., Ibis, 1861, p. 46.

Hab. China. Ins. Philipp.

These titles are thrown together as synonyms of the Linnæan species, on the presumption, first, that the Chinese and Philippine species are one and the same, and, secondly, that they specifically differ from *E. honorata* (L.). Upon this last point I am not quite determined; but, judging from Buffon's 764th plate and Montbeillard's and Sonnerat's description, I believe them to be distinct. I have failed in seeing specimens of the female or young male. An adult Philippine male exists in Mr. Gould's collection, which possesses a stout bill, stouter than in *E. malayana*, from Tenasserim, and deeper than in *E. honorata*. Should it prove a distinct form, we shall have the following not improbable distribution of the three species:—*E. honorata* to the west, *E. mindanensis* to the east of the hill-ranges which descend from Assam southward through the Malay Peninsula; and *E. malayana* originating in the central Himalaya, inhabiting the slopes of the descending range, and extending at least all over Sumatra.

4. Eudynamis cyanocephala (Lath.), Ind. Orn. Supp.

p. xxx. no. 3 (1801), ex Lath., Syn. Supp. ii. pp. 137, no. 8, "New Holland," ♀ adult vel ♂ adolesc.

E. flindersi (Lath.), Vigors & Horsf., Linn. Tr. xv. p. 305 (1828), ex Lath., Gen. Hist. iii. p. 308, no. 63, "North Coast of New Holland," ♀ vel ♂ adolesc.

E. orientalis (L.), Vigors & Horsf. *t. c.* p. 304, "New Holland," ♂ adolesc.

E. australis, Swains., An. in Menag. p. 344, no. 189, "Australia," ♂ adult.

Hab. New South Wales, Queensland, West Australia (Gould).

Latham's "Blue-headed Cuckoo" must certainly have been a *Eudynamis*; and as only one species is known to exist in Australia, I give the title founded on it precedence over his subsequent designation bestowed on a specimen obtained on the north coast by Captain Flinders, the type of which still exists in the British Museum.

A specimen of an adult male from Queensland in my collection possesses one bright rufous secondary quill, as observed by Mr. Vigors in Mr. Caley's example; only my specimen is otherwise in full black livery.

The difference between the plumage of the female and young of the Australian and Indian birds (*E. honorata*) is very striking. The female of the Indian species never has the black head and nape, the broad dark bands from the angles of the mouth, and the pale and almost immaculate fulvous breast we find in the Australian Koel. In other respects the markings, in shape, colour, and combination, are perfectly different. The type-specimen of *E. flindersi* displays so anomalous a phase of colouring that I venture to surmise that it belongs to a second Australian species.

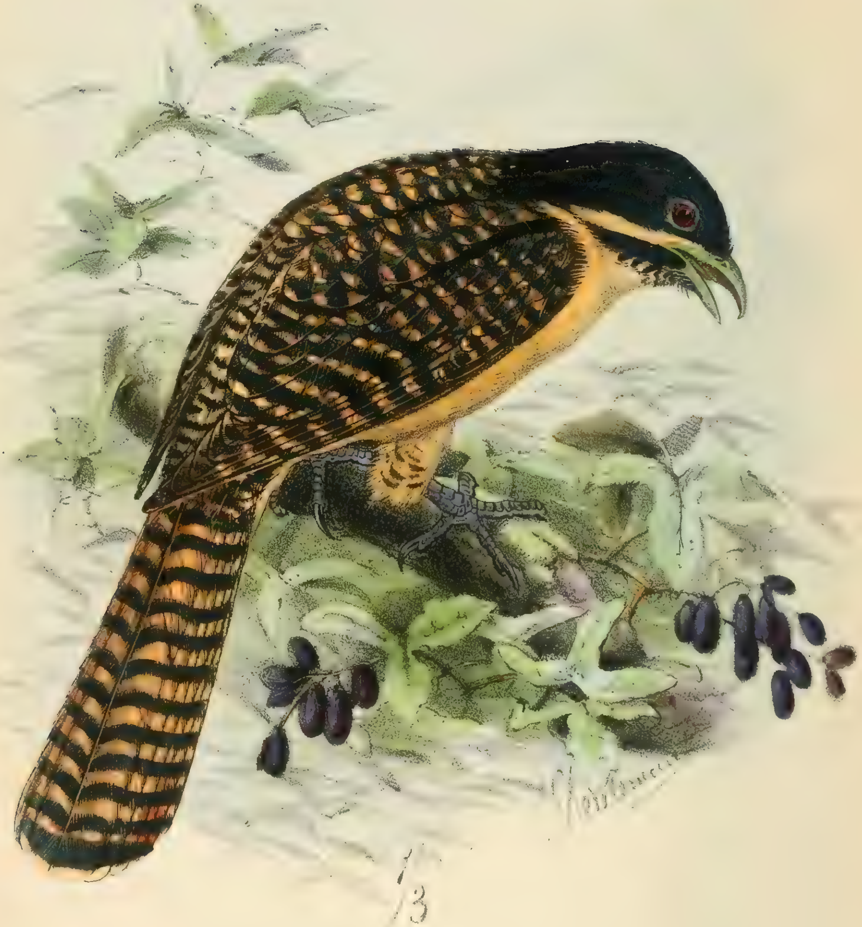
5. Eudynamis orientalis (L.), ex Briss. iv. p. 140. no. 18, "Ind. Orient." ♂ adult.

C. punctatus, L., ex Briss. *t. c.* p. 134, no. 14, "Ind. Orient." ♀ vel ♂ adolesc.

E. picatus, Müller, Verh. Nat. Gesch. Ned. Overz. Bez. Land. & Volkenk. p. 176, "Amboyna," ♂ adolesc. plum. mut. (*fide* Schlegel, Mus. P.-Bas, *Cuculi*, p. 19).

E. picata, Cab. & Heine, *t. c.* p. 55, note.

The correct title for the Amboyna *Eudynamis* involves a problem in nomenclature most difficult to solve. Its satisfactory solution depends first upon the specific identity or otherwise of the Amboyna and Ceram birds, and next, if they be distinct, upon which of the two islands it was that supplied Brisson's types. Müller (*fide* Schlegel, *ut supr.*) gives from Amboyna *E. orientalis* (L.), *E. punctata* (L.), and *E. picata,* Müll. The old male he identified with the first title, the female with the second; and he described as distinct a young male passing into adult plumage under the third title. Prince Bonaparte (Consp. Av. i. p. 101) not only gives *E. picata,* Müller, from Amboyna, in which he is right, but also, as a separate species, *E. punctata* (L.), from that island and New Guinea. His having added this last locality renders it doubtful whether the specimen he had before him was from Amboyna or from New Guinea. And yet upon this turns the validity of the characters by which he distinguishes the Ceram species. For he defines *E. punctata* as "*similis præcedenti*" (*E. ransomi,* from Ceram) "*sed minor* (Long. 14 poll.)," etc. We know that the New-Guinea *Eudynamis* is smaller than that of Ceram; but it is not demonstrated as yet that the Amboyna Koel also is smaller. Dr. Cabanis insists (*l. c.*) that Réaumur's specimen must have come from Ceram, chiefly for the reason that Brisson's dimensions are too large for the Amboyna race. But Dr. Cabanis is assuming that Bonaparte's "kleine vierzehnzöllige Art" is the true Amboyna species. The Ceram bird was considered distinct from the Amboyna bird by Forsten; for he entitled it *Cuculus punctatus,* var. *ceramensis.* Prince Bonaparte (*l. c.*) described the female bird from Ceram, Forsten's specimen, under the title of *E. ransomi.* Dr. Cabanis, as we have seen, regards the two birds as distinct species; but he does not appear to have seen Amboyna individuals. Professor Schlegel, of course, refuses to admit the specific distinction. I have failed in seeing an Amboyna specimen, and can offer no opinion. But it is a matter which must be decided before we can determine the title of the two birds. If we adopt Professor Schlegel's view, both birds will stand as *E. orientalis.* The dimensions given by Professor Schlegel of



J.G. Keulemans lith

M & N Hanhart imp

EUDYNAMIS RANSOMI

examples from the two localities do not strikingly differ:—Ceram, wing 7 inches 10 lines to 8 inches 4 lines; Amboyna, wing 8 inches 1 line.

It may be that the Amboyna Koel and the one known to inhabit a part of New Guinea are identical; but I am induced to decide that the Amboyna and Ceram Koel differ, solely because Forsten considered them to be different. He is the only ornithologist, besides Professor Schlegel, who, we know for certain, actually compared specimens from both islands; and, what is more, he procured the specimens himself.

Our only knowledge of the comparative size of the two species is confined to the dimensions given by Professor Schlegel already quoted: it is not sufficient to warrant us in affirming that the Ceram bird is the largest; and for the time the question must be left undetermined. Moreover, as the Dutch naturalists all unite in giving *Cuculus punctatus*, L., from Amboyna, the probability is that Count Bentinck's specimen came from there; I therefore cannot follow Dr. Cabanis so far as to refer the Ceram and not the Amboyna bird to *C. orientalis* vel *punctatus*, L.

6. EUDYNAMIS RANSOMI, Bp., Consp. i. p. 101, "Ceram," ♀ vel ♂ juv? (1850). (Plate X.)

Cuculus orientalis, pt. Schleg., Mus. P.-B. *Cuculi*, pp. 18, 19, "Ceram."

E. orientalis, Cab. & Heine, *t. c.* p. 53.

This is a very handsome species, and perhaps the largest of the genus.

	Long. rostr.	al.	caud.
Bouru ♂ adult	0·88	8·50	8·75
„ ♀ (*fide* Wallace)	0·88	8·50	8·85

The bill is not so long nor as stout as in my Javan specimens (*E. malayana*), the other dimensions being greater. The adult male is entirely black with a green gloss; but the garb of the young birds assumes the most striking and peculiar variations, none of which are ever to be found in *E. honorata*, *E. malayana*, or *E. cyanocephala*. The bird here figured is either a young male or an adult female procured by Mr. Wallace in the Island of Ceram, specimens from which are identical with those of Bouru. A second specimen has all the feathers of the chin and throat turning to black, while the remainder of the lower surface is nearly immaculate rufous-buff. Another specimen has the throat perfectly black, as well as the head and nape. A fourth, from Ceram, is entirely black except the abdomen, which is deep rufous-bay,—an adult male, having almost completed its moult. A fifth, a male moulting into adult plumage, is pied jet-black and rufous-buff.

A peculiarity of the Ceram and Bouru birds in adolescent male and adult female plumage is the regular well-defined and arched character of the rufous caudal bands and their great breadth. Brisson notices this character in his description of *C. punctatus*, L.; and if not possessed by the Amboyna bird, it will go far to support Dr. Cabanis's view. Brisson's words are "bandes transversales rousses, formant chacune un arc de cercle." I have not observed this character in examples of *Eudynamis* from any other locality.

7. EUDYNAMIS RUFIVENTER, Less., Voy. de la Coquille, p. 620, no. 23, "Nouvelle Guinée," ♂ adolesc. plum. mut. (1826).

A single specimen of an adult male *Eudynamis* was obtained by Mr. Wallace at Dorey, in New Guinea. Bill pale-greenish. Its chief dimensions are :—wing 7·75 inches, tail 8, bill from nostril ·87. It differs from all the other species I am acquainted with, and I therefore enumerate it as distinct.

Lesson described from a young male passing into adult black plumage. It is probable that Mr. Wallace's individual is referable to Lesson's species: at the same time the colour of the bill does not quite agree; for the latter says "le bec est noir, la mandibule inférieure blanchâtre."

8. EUDYNAMIS MELANORHYNCHA, Müller, *l. c.* sp. 2, "Celebes."

This is the *Eudynamis* of Celebes, distinguishable from all others except *E. facialis*, Wall., by its black bill at all ages. Having united under one species the Koels inhabiting the entire region between Ceylon and China, the Himalayas, and South Australia, Professor Schlegel remarks (*l. c.*) "C'est un fait digne de remarque que cette espèce, originaire de Célèbes, se trouve, pour ainsi dire, comme perdue au milieu de ces colonies nombreuses du *Cuculus orientalis,* répandues depuis l'Hindoustan, jusqu'aux Philippines, à la Nouvelle Guinée et l'Australie."

The black colour of a bill in this instance is admitted as a character of sufficient value to raise its possessor to the rank of a species, while characters of equal importance, as well defined and as persistent, are rejected in other members of the genus. If all the individuals inhabiting the vast region mentioned by the learned Professor did not differ, the restriction of this black-billed species to so limited an area would certainly be interesting, almost equal in interest to the fact of a yellow-billed *Centropus, C. chlororhynchus,* Blyth, dwelling in a limited part of the Island of Ceylon, and there only, alongside of the widely distributed *C. rufipennis,* Illig. But if we allow, when discriminating species, other characters to have their weight, besides the mere colour of the bill, *E. melanorhyncha* only offers an instance of local restriction such as we find in many islands and even on continents.

The plumage of the female and young male in this species is, as in all the species of the genus, very remarkable and characteristic. In one individual the upper plumage is of deep chocolate-brown striated with black. In another, from Menado, in Mr. Gould's possession, the whole of the upper surface of the head, nape, wings, tail, and the back is dull olive-green, with a subdued sheen. Chin, throat, and cheeks dull smoky brown; remainder of under surface and the under wing-coverts fulvescent rufous, each feather crossed by two or three irregular narrow black lines. From the angle of the mouth a slender whitish line descends down the sides of the neck, sharply separating the fuliginous throat from the olive-green head and nape.

9. EUDYNAMIS FACIALIS, Wallace, P. Z. S. 1862, p. 339, "Sula Islands."

The only example of this species as yet obtained is the type-specimen in Mr. Wallace's possession. It is possible that the white of the forehead and throat is not constant; but the shorter and differently shaped bill and smaller dimensions of the Sula bird are quite sufficient to distinguish it from the Celebes Koel. Judging by analogy, the females of the two species will certainly possess distinctive characteristics.

I possess a Koel in immature plumage, procured by Mr. Wallace, and marked from Flores; whether correctly so I rather doubt. Its entire upper surface is rusty-brown, relieved on each feather by spots, centres, or bars of light rufous. The rufous caudal bands are more numerous, narrower, and more irregular than we find in *E. ransomi*, Bp., from Ceram. The entire under surface of the bird is dirty-white, each feather with a brown centre or else with two or three brown irregular transverse bars. The dimensions are about equal to those of *E. ransomi*, Bp. If from Flores, this specimen represents a species distinct from the Javan form; but I suspect that it is the Ceram bird in young female garb.

As I consider *Cuculus taitiensis*, Sparrm., to be generically separable from *Eudynamis*, this closes the species of true Koels known to me. It is, however, not unlikely that a distinct species inhabits Timor, and another form Ternate.

XXXI.—*Letters, Announcements, &c.*

We have received the following letters, addressed "To the Editor of 'The Ibis'":—

Dobroyde, Dec. 10th, 1868.

Sir,—I am not a little surprised to find Professor M'Coy asserting (Ibis, 1868, p. 122) that the specimens of the lately discovered species of *Pardalotus* described by me were not sent to me until after he had published a description of them in the 'Australasian' newspaper of Melbourne, and thereby insinuating that my descriptions were taken from the single skin of a male bird which he sent to me on the 31st of December, 1866, while his description appeared on the 29th. Allow me to inform the readers of 'The Ibis' that the three specimens (two males and a female) from which I took my descriptions were received at the Sydney Museum about the middle of November, that my descriptions of them were drawn up, by the kind permission of Mr. Krefft, very shortly after, and that, at the time Prof. M'Coy's specimen reached me, my descriptions had been posted by the mail which had left for England some ten or twelve days previously. I am, Sir, yours, &c.,

Edward P. Ramsay.

Takow, Formosa, 15 Jan. 1869.

SIR,—I have lately come across Mr. Collingwood's 'Rambles of a Naturalist on the Shores and Waters of the China Seas'*, and have picked out thence a few things bearing on Chinese ornithology which are worth recording. Unfortunately the author does not name all his birds; but I think I can make out most of them. On the 30th of April he visited the Pratas (page 28), where he found "plenty of birds, and of several species, both sea- and land-birds," namely:—A Buzzard, probably *Buteo japonicus*, which is a winter visitant to the south of China; a Shrike with an ash-coloured head and a black moustache, which was, without much doubt, *Lanius shach*; a yellowish bird resembling the English Siskin, *Euspiza sulphurata* (T. & Schl.), a winter visitant to the south of China; *Petrocincla manillensis* (Bodd.) or Rock Thrush—"its stomach contained the *elytra* of beetles;" the "Blackbird" must have been *Dicrurus macrocercus* (for *Merula mandarina* is not a migrant); the Swallow, glossy bluish above and speckled fawn-colour beneath, was most likely *Hirundo daurica*; the bright-coloured Kingfisher, very like our own, was *Alcedo bengalensis*; the small birds with the jerking flight and the chirrup of our hard-billed perchers were probably *Emberiza personata*; *Tringæ* of at least two species; the Plover of a reddish-brown colour with orange-red legs was *Strepsilas interpres*; the Plover of a delicate mouse-colour with yellow legs was *Ægialitis minor*; the Godwit, speckled grey and brown, with greenish legs and a recurved beak, was most likely *Totanus glottis*; the Egret is probably *Buphus coromandus*. A Frigate-bird was also shot—an interesting fact, as somewhat explaining the occurrence of this form at Amoy (Ibis, 1868, pp. 52–58).

The characteristic bird of the Pratas is the Gannet (*Sula fusca*); and an interesting account of its breeding-habits is given (p. 30). Of the birds enumerated, the Shrike, the Kingfisher, and the Rock-Thrush are the only ones that may be considered resident.

Further on, Mr. Collingwood writes (p. 118):—"Immediately north of Kelung [1st June] we met with a group of three islands—Pinnacle, Craig, and Agincourt." Craig Island was covered with birds, and he found two Chinese egg-gatherers there. The birds noticed were:—"Wideawakes," probably *Sterna fuliginosa*, a species I have noticed about the Pescadores, but never on the China coast. These were breeding:—Another species of Tern, somewhat larger in size, and of a blue-grey and white colour, *S. velox*, a species which breeds regularly on Kelung Island; "besides these there was a Sooty Petrel"—surely my recent discovery, *Thalassidroma monorhis* (Ibis, 1867, p. 386)? for which it is interesting to find a locality; *Passer montanus*, the only land-bird; a few Gannets, *Sula fusca*; and "on the rocks by the shore, a number of dove-coloured birds with white foreheads." These I cannot identify; and it is to be regretted that the author did not succeed in getting a specimen. The white eggs he procured most likely belonged to the Petrel above named. The notes on the nidification of the birds on Craig Island are well worth reading, and I would recommend their perusal in the work itself.

---

* [*Cf.* Ibis, 1868, pp. 473, 474.—ED.]

I have been moving from place to place so much during the past year, that I have not had time to put my notes into the form of a paper. I hope to make up for lost time when I return to England. Since I have been here I have obtained a second species of *Turnix*. It is smaller than *T. rostrata*, and is in many localities thereabouts much commoner. I have also procured a male *Coturnix sinensis*, a bird hitherto only known to inhabit Formosa from the discovery of its eggs.

I am, &c.,

ROBERT SWINHOE.

Sir,—In your second notice of Mr. Diggles's work (Ibis, 1868, p. 348), with reference to *Casuarius johnsoni*, you say that the author "fails to show in what way" it "differs from *C. australis*." As I have described the bird which Mr. Randall Johnson presented to the Australian Museum, and as Mr. Diggles figures it from photographs taken by me, I consider it my duty to explain to you why I thought myself justified in giving it any name I chose. That a species of Cassowary existed in the north of Australia has been known for years; and that the late Mr. Thomas Wall was the first who actually procured a skin of it is also a fact not to be disputed; but as this species had never been seen by persons competent to give a tolerably correct description of it, I was not at all surprised that the account which Mr. Gould furnished of a Cassowary in his 'Handbook of the Birds of Australia' (vol. ii. pp. 206, 207), received secondhand from a member of Kennedy's expedition, did not agree with Mr. Johnson's specimen.

After Mr. Carron's return to Sydney, in or about May 1854, he gave Mr. W. S. Wall (the *former* Curator of the Australian Museum) the particulars about the bird procured by his brother, which were subsequently published in the long-defunct newspaper whence Mr. Gould copied his account; and these are totally incorrect if the species to which they refer is that to which I have applied the name of *Casuarius johnsoni*. They describe the bird as being of a "dark brown" with a "bright red" helmet, while "to the neck are attached, like bells, six or eight round fleshy balls of bright blue and scarlet." Now my bird has *black* feathers, a *horn-coloured* helmet, and *two* blue wattles. Is it not possible, then, that the *brown*, *red-helmeted*, and *six-or-eight-wattled* Cassowary is still at large? But at any rate I conceive that, if any person had a right to choose a name for the bird given by Mr. Johnson, I had; for I gave the first correct description of it, on its being deposited in this museum, the largest in the southern hemisphere, while the specimen procured by Wall has been long since lost.

With regard to your remarks on the *Pitta* figured by Mr. Diggles, to which you draw my attention, I have to say that I incline to your opinion that it is a new species, and that it is my fault that Mr. Diggles did not describe it as such. I purchased the specimen from a collector who has only too often given wrong localities. He stated that the bird had been shot at Cape York; and I thought that he had got it from a New-Guinea trader, but that, even if obtained at the Cape, it might be identical with *Pitta mackloti*, of which I had not then seen a figure. Mr. Elliot's 'Monograph of the *Pittidæ*' is not in the Museum library; and the colours of Temminck's figure (Pl. Col. 547) appear to be faded in our copy. There is only a black spot under the throat; the cheeks are vinous-brown, as Mr. Diggles describes them (Orn. Austral. part. xiv.); but the colours in his plate are not exactly correct, the blue on the wings being too light, and the brown of the neck not deep enough. The band on the breast appears to be broader than in Temminck's figure. Should this species prove to be distinct from the New-Guinea *Pitta mackloti*, I beg leave to suggest for it the name of PITTA DIGGLESI.

I am, Sir,
Yours respectfully,
GERARD KREFFT.

Australian Museum, Sydney,
29th January, 1869.

Washington, March 4, 1869.

SIR,—A very interesting discovery was made last summer respecting the bony process on the bill of the *Pelecanus trachyrhynchus*, or American White Pelican, by Mr. Robert Ridgway, a young ornithologist of much promise, attached to the U. S. Geological Survey of the 40th Parallel, under Mr. Clarence King. Happening to be near Pyramid Lake, in Nevada, a celebrated locality for the breeding of the White Pelican, Mr. King sent Mr. Ridgway there to observe their habits and collect their eggs. Procuring a boat, Mr. Ridgway and companion proceeded to the breeding-ground, an island in the lake, some miles from the shore, and found the Pelicans nesting by the thousands. On their arrival all the male birds had the bony crest or process on the upper surface of the bill characteristic of the species; but as the season advanced this fell off, until, towards the end of their stay, not one was left attached, and the ground was strewn with the "centre boards," as they are popularly termed, where they could have been gathered by the bushel. When the process is developed Mr. Ridgway did not ascertain, or how long before the season commenced. Changes in the plumage of the bird, not before noticed, will be given in Mr. King's report.

I am, &c.
SPENCER F. BAIRD.

Auckland, 7th March, 1869.

Sir,—I send you the description of two birds in the Auckland Museum: the first, *Majaqueus parkinsoni* (G. R. Gray), I got in December 1867, on the Little Barrier Island, about sixty miles from Auckland; and the second is the species mentioned by Mr. Gould as having been shot by him off Tasmania, and referred by him to *Procellaria macroptera*, A. Smith. I have not got Sir Andrew's work here; but I have a copy of his figure of that species, and I do not think it is the same as mine, as it has no grey on its face, and a circle of white feathers round the eye. If it be new, I propose that it should bear Mr. Gould's name, as, strange to say, he has no Petrel called after him, although he has done so much in working them up; and he also appears to have been the first to mention this bird.

Majaqueus parkinsoni.

Procellaria parkinsoni, G. R. Gray, Ibis, 1862, p. 245.

Bill stout, compressed, nasal tubes obliquely flattened, carinated. Lateral parts of upper mandible, below sulcus of lower mandible, and flattened portions of nasal tube bluish white. Unguis and gonys bluish white, with edges inclining to black. Culmen, lower mandible above sulcus, lower and basal upper part of tube, and nostrils black. Legs and feet black. Head and neck sooty-black: rest of body, wings, and tail very dark brown, lighter brown on the abdomen. Tail short, rounded, wings, when folded, reaching 2 inches beyond the tip.

Length 18 inches, wing from carpal joint 13·75, tail 4·2. Bill from gape 2, chord of culmen 1·5; height at base ·75, width ·65; nasal tubes ·5; tarsus 2·1; outer toe and claw 2·5, inner 2·25; middle, with claw, 2·75, without, 2·25.

Breeds in holes under the roots of trees, at elevations from 1000 to 2000 feet above the sea, on the Little Barrier Island, Haurabi Gulf, New Zealand. Lays one white egg, ovoid, length 2·8, greatest breadth 2. Sits in December. "Toa-nui" of the natives.

Æstrelata gouldi, mihi.

Pterodroma macroptera, Gould, Handb. B. Austral. ii. p. 449 (*nec* A. Smith).

Bill compressed, much higher than broad, black. Legs and feet black. Upper parts of body with wings and tail sooty-black, some of the wing-coverts with brownish tips; under parts dark brown. Forehead, cheeks, and chin silvery-grey, shading off gradually into the black; the grey does not reach to the eye. Tail moderately long, cuneate; wings, when folded, reaching about half an inch beyond the tip.

Length 16·75 inches; wing from carpal joint 13·5; tail 5, graduation 1·4; bill from gape 1·6, chord of culmen 1·2; height at base ·7, width ·6; tarsus 1·6; middle toe and claw 2·6, outer do. 2·5, inner do. 2·15.

New-Zealand seas. Common.

Obs.—On the back of the head of this specimen there are a few hair-like feathers with white tips projecting beyond the others. These may perhaps be down remaining from the young bird.

We have a species of *Puffinus* here which I have always put down as *P. assimilis*, but which I now see, from a study of Dr. Coues's papers on the *Procellariidæ* *, cannot be that species, being much too large. It is evidently very close to *P. obscurus*, and perhaps identical with it. Length 13·25 inches, bill from gape 1·75, wing from carpal joint 8·25, tarsus 1·5. It is exceedingly numerous here, as is also *Pelecanoides urinatrix*.

I would make some remarks on Dr. Coues's "Review" of the *Procellariidæ*:—

Fregetta melanogastra is not confined to the tropical parts of the Pacific. It is found in the Atlantic, and extends down to 43° S. I have only seen it between 35° S. and 43° S.

Ossifraga gigantea. I can scarcely believe that the lower parts and neck of the adult are white; the brown birds, like Mr. Gould's figure (B. Austral. vii. pl. 45), are common; those with white in them rare. I have never yet seen one with white below.

Æstrelata hæsitata. I saw two birds on April 21st, 1866, in long. 15° 3′ E. and lat. 35° 37′ S., which I have no doubt were of this species, the colours being so well marked.

The Acclimatization Society here has a pair of Cassowaries from the Solomon Islands, which appear to me to be new, they are jet-black, with blue flesh on the throat and head. I have persuaded the authorities to make a present of them to the Regent's Park Gardens.

---

* [*Cf.* Ibis, 1867, p. 131.—Ed.]

We have also in the Museum what is probably a new species of Megapode, from Nuipo, one of the islands in the Friendly group.

I am, &c.,

F. W. HUTTON.

Etawah, 25 March, 1869.

SIR,—In my notes on the birds I met with in Kumaon (*suprà*, pp. 43–60) I have made a few mistakes, owing to the great brevity of some of Dr. Jerdon's descriptions and my not having seen many of the birds before:—

Dicæum minimum (p. 47). Dr. Jerdon, on looking at these specimens, pronounced them to be *Sylviparus modestus.*

Lanius erythronotus (p. 48). With these birds is one *Lanius nigriceps.*

Dicrurus longicaudatus (p. 48). I am not sure about this bird. It agrees better with the description of *D. longicaudatus* by Dr. Jerdon than with that of *D. waldeni* by Capt. Beavan (Ibis, 1868, p. 497).

Oreocœtes cinclorhynchus (pp. 50, 51). I have seen other eggs of this bird in Mr. Hume's collection which agree exactly with those I took. The wrapper of 'The Ibis' is about the colour of the ground of this bird's eggs. The mottling, of a rather darker shade, is very slight and indistinct.

Merula boulboul (p. 51). The song of this Thrush is a most agreeable one, rather more varied than that of the English Blackbird, and in a higher key.

Pratincola rubicola (pp. 53–55). If the labels were removed, and the Stonechats sent me by Mr. Tristram were mixed with my large Indian series, I do not believe any one could separate them again. Herr von Pelzeln (*cf.* Ibis, 1868, p. 309) has rightly pronounced the birds identical. There is not the shade of a difference in winter plumage. I have not a European bird in summer plumage.

Acrocephalus agricolus (p. 55) should be, Dr. Jerdon says, *A. dumetorum.*

Phylloscopus tristis (p. 56). I cannot perceive the slightest difference between a *P. rufus* sent me by Mr. Tristram and the Indian specimens. The bill of the Indian bird is decidedly not shorter. Few of mine have the bill so short as the one received from Mr. Tristram. I knew the song to be that of the Chiffchaff when I heard it. Birds of different species might be very similar in plumage, but they would scarcely have the same song also.

Phylloscopus viridanus (p. 56) was correctly named. I have since seen *P. lugubris,* which is a much darker bird, quite blackish by comparison, and the most dusky of all the Willow-Wrens. The tail-feathers of *P. viridanus* are faintly barred or rayed, like those of *P. trochilus* and *P. rufus.*

Reguloides superciliosus (p. 56). Among the many skins of *P. viridanus* I found one of this bird, shot on the 29th of April, 1868, near the top of the Kale-mŭt Hill, three miles north of Almorah. It was a solitary bird; and from the bleak place in which I found it, with hardly any cover, I should say it was on its journey over the hill, going further north. The few small scrubby bushes out of which I shot the bird were only a few yards in circumference, and there were no others near. In the plains this bird is excessively common, no bird more so. If I live and get to the hills again, I hope to find its nest, and perhaps that also of *R. proregulus* and other similar birds. I am so familiar now with the different call-notes of these birds, that, when I do go, hearing the birds will discover them at once to me. When I was there in 1868, I did not know the notes of either of them. I wish I had; for the birds are not always easily seen, as they flit about among the thick foliage of large trees.

Turtur meena (p. 60) should be *T. rupicolus.*

The birds I could not make out are:—*Stachyrhis pyrrhops,* shot in one of the valleys near Almorah; *Ixulus flavicollis,* shot at Nynee Tal; and *Prinia hodgsoni,* shot at Almorah.

I remain, &c.,

W. E. Brooks.

Agra, April 2, 1869.

Sir,—I recently sent to M. Jules Verreaux, for examination, a small box of bird-skins, in regard to which I shall address you later more in detail, as they include, I think, nearly *twenty* species new to our Indian avifauna; but I wish to put on record the names of some few of them about which I am pretty sure:—

Pratincola rubetra, from several parts of the Punjaub.

Sylvia delicatula, from Western Rajpootana.

Aedon galactodes, from Jodhpoor in Western Rajpootana. This I owe to Dr. King.

Anthus pratensis, from near Ferozpoor.

Anthus aquaticus? from the Punjaub, west of the Sutledge.

Alauda arvensis, from near Lahore. This I owe to Captain Marshall.

Emberiza striolata, from the Taragurh hill, Ajmere, where it is said to breed. Mr. Brooks has since obtained this bird in Etawah.

Emberiza schœniclus, from dry reedy jheels, near Badlee, thirty miles south of Delhi.

I may also note that I have obtained several specimens of what both Dr. Jerdon and I believe to be *Larus argentatus*, at a jheel twenty miles south of Delhi, and that I have a specimen of what is undoubtedly, I believe (and in this Dr. Jerdon concurs), *Phœnicopterus minor*, kindly sent me from the Delhi Museum, and brought from the Sambhur Lake, Jodhpoor. I ought to mention that this is, I think, the *P. rubidus* of Capt. Feilden * (Ibis, 1868, p. 496); but that our bird is *P. minor*, Temm. (Pl. Col. 49), I have (after examining a good copy of that plate in Dr. Jerdon's possession) no doubt; the shape of the bill alone suffices to separate this species from *P. roseus*. Dr. Jerdon first made this identification; and I may also mention here that he has recognized a bird in the Lucknow Museum (which, however, I have not yet seen) as *Philomela major*.

---

* [Since Dr. Jerdon's letter (*suprà*, pp. 230–232) was published, Capt. Feilden has been so good as to send us his type-specimen, which we have submitted to Mr. G. R. Gray, who has kindly pointed out to us some important characters wherein it differs from the African *P. minor*, Temm., which we believe he will shortly make public. Meanwhile we venture to express our opinion that *P. rubidus* will be found to be a very good species.—Ed.]

I also sent to M. Verreaux a Falcon allied to *Falco peregrinator*, which I wish provisionally to name Falco atriceps. The head, nape, cheek-stripe, cheeks, and ear-coverts all form one black patch. The rest of the upper surface pure slaty-blue, barred, just as in an old Peregrine, with dusky slate-colour. Beneath it is marked like *F. peregrinator*, and it has narrow bars on the lower surface of the primaries.

Also a new *Ploceus*, which I got in the terai, much larger than any of our Indian species; and though closely resembling *P. baya*, it is nearly double the weight of that bird, with a bill fully half as large again. Dr. Jerdon agrees with me that this is a new species, at any rate to our Indian avifauna; and I name it provisionally Ploceus megarhynchus.

I have numerous specimens of a species of Vulture not included among the birds of India either by Dr. Jerdon or by Mr. Blyth. It is a large bird, much bigger than *Gyps bengalensis*, *G. indicus*, or *Vultur calvus*, and resembling *Gyps fulvus*, but of a rich ruddy-bay colour with conspicuous narrow pale median stripes to the feathers beneath, and a short stout bill, like *G. bengalensis*. I call it Gyps fulvescens, the Bay-backed Vulture.

I have also sent specimens to Paris of an *Accipiter* which seems to me to be quite distinct from *A. nisus*. This I call Accipiter melanoschistus—the very dark (almost black) head and nape, the olive slate-colour of the rest of the upper surface, the peculiar closeness of the markings on the lower parts, as well as its somewhat greater size, serving to distinguish it from the species just named, and *à fortiori* from *A. gularis*, *A. brevipes*, *A. virgatus*, and others. It is not *Lophospiza trivirgata*, though in the colour of the upper surface of some specimens there is a close resemblance between them. My new bird has, of course, no crest.

Then I sent a Buzzard of a very deep smoky-brown, mingled beneath with dull red, the tail having conspicuous and well-defined greyish-white bars. I procured several specimens in the Punjaub. It may be an African species; but till identified as such, I call it Buteo fuliginosus.

To a most remarkable species that I have met with in the interior of the Himalayahs, and of which I have also sent a specimen, I provisionally give the name of PHYLLOPNEUSTE MACRORHYNCHA; but it will have to be generically separated. It resembles *P. rama* in size and plumage; but the bill is enormous, reminding one of *Rhinochetus*.

I must also mention that I entertain no doubt of the *Saxicola* so common in Upper India, and heretofore identified with *S. œnanthe*, being really *S. isabellina*, Rüpp., *S. saltatrix*, Ménétr. I have, however, another nearly allied species which may be the true *S. œnanthe*.

I think I ought to notice that *Rollulus superciliosus* * is not very uncommon in the cold weather in the immediate neighbourhood of Capt. T. Hutton's house at Jerepanee, Mussouri. That gentleman procured three specimens this year. They frequent high grass, are exceedingly difficult to flush, and drop again within three or four yards; so that the only way to shoot them is with a pistol. I owe this information, as well as the specimens that adorn my collection, to Capt. Hutton. He further mentions that they are migratory, only remaining a month or so, but that whence they come—whether from the north or the south, from the interior of the hill-country or the Dhoon—he has, as yet, been unable to satisfy himself.

The species of *Budytes* are most troublesome. I hope M. Verreaux may be able to do something with them; I have sent him five species at least, and I have two others. It seems that *B. flavus, B. rayi, B. auricapillus, B. melanocephalus, B. cinereocapillus*, and *B. viridis* all occur here; but without a good series of European examples with which to compare ours, it is impossible to be certain.

Lastly, Dr. Jerdon writes to me that he has found *Tadorna scutellata* common in the Burrampooter, shy and wary, keeping to the middle of the river, in flocks of from twenty to forty.

Yours, &c.,

A. O. HUME.

---

* [*Cf.* Ibis, 1867, p. 313, 1868, p. 472.—ED.]

Manchester, 20th April, 1869.

Sir,—It may interest your readers to know that the most ancient record of the occurrence of the Pheasant in Great Britain is to be found in the tract "De inventione Sanctæ Crucis nostræ in Monte Acuto et de ductione ejusdem apud Waltham," edited from manuscripts in the British Museum by Professor Stubbs, and published in 1861*. The bill of fare drawn up by Harold for the Canons' households of from six to seven persons, A.D. 1059, and preserved in a manuscript of the date of *circa* 1177, was as follows (p. 16):—

"Erant autem tales pitantiæ unicuique canonico: a festo Sancti Michaelis usque ad caput jejunii [Ash Wednesday] aut xii merulæ, aut ii agauseæ [*Agace*, a magpie (?) *Ducange*] aut ii perdices, aut unus phasianus, reliquis temporibus aut ancæ [Geese; *Ducange*] aut gallinæ."

Now the point of this passage is that it shows that *Phasianus colchicus* had become naturalized in England before the Norman invasion; and as the English and Danes were not the introducers of strange animals in any well-authenticated case, it offers fair presumptive evidence that it was introduced by the Roman conquerors, who naturalized the Fallow Deer in Britain.

The eating of Magpies at Waltham, though singular, was not so remarkable as the eating of Horse by the monks of St. Galle in the time of Charles the Great, and the returning of thanks to God for it:—

"Sit feralis equi caro dulcis sub cruce Christi!"

The bird was not so unclean as the horse—the emblem of Paganism—was unholy.

I am, &c.,

W. Boyd Dawkins.

Sir,—In the Natural-History Museum of Edinburgh, formerly in connexion with the University, but since 1855 included in the Museum of Science and Art, are two eggs of *Alca impennis*, which have not been noticed in any published list.

---

* The Foundation of Waltham Abbey. The Tract 'De inventione' &c. By William Stubbs, M.A. Oxford and London: 1861. 8vo, pp. 60.

In 1819, Mr. Bullock's museum and the extensive collection of M. Dufresne of Paris happened to be for sale, and the Senatus Academicus of the Edinburgh University voted a sum of £3000 for the purchase of a selection from the former, and the whole of the latter.

From the manuscript catalogue which accompanied Dufresne's collection, it appears that it contained 1600 specimens of birds, 2600 shells, 12000 insects, 600 eggs of birds, 200 fossils, a considerable number of *Radiata,* and a few mammals.

A short time ago on visiting this museum, I pointed out to the conservator the two eggs of *Alca impennis;* and he very kindly gave me access to the manuscript records of the museum, and all the information in regard to these eggs which lay in his power.

The eggs of the Dufresne collection had remained hid away in drawers in the University Museum since 1819 till about three months ago, when they were removed by the conservator to the Museum of Science and Art. A large portion of the collection was broken and spoilt, but the whole eggs he had taken out and exposed to view in glass cases; fortunately the two eggs of *Alca impennis* remained in good condition. I searched carefully through the drawers in which they had lain since 1819, but failed to discover a single fragment of a third egg.

I have little doubt that both these eggs came from the Dufresne collection; for though there are eggs of birds in the same cases, that were procured in one of Sir Edward Parry's Arctic expeditions, and perhaps from other sources, yet the writing on one of the eggs, "*G. Pingouin,*" agrees exactly with the writing on the other egg of the French collection, and with that of the manuscript catalogue which accompanied it from Paris.

I searched in vain through the catalogue for any list of the eggs, though the birds, insects, and shells are all carefully classified and entered.

One of the Great Auk's eggs is still attached with glue to a piece of cardboard and is slightly cracked on the underside. It has no writing upon it; but as the cardboard on which it is fastened is of the same colour and consistency as that on which the other French eggs are glued, I conclude it is also from the Dufresne collection.

On turning to that portion of M. Dufresne's manuscript catalogue where his specimens of *Alcidæ* are recorded, I find no mention of *Alca impennis* or of its eggs as being in his collection. The manuscript is as follows:—

Genre *Alca*.
1. *Alca arctica*. Le macareux. *Fr.*
2. *Alca pica*. Le petit Pingouin. *Fr.*
3. *Alca torda*. Le Pingouin. *Fr.*
4. " " " " "
5. " " Le Pingouin (*de terre neuve*).

I presume that "*Fr.*" means that France was the locality whence four of these specimens were procured, and "*terre neuve*" Newfoundland. I hence infer that, in the time of Dufresne, *Alca impennis* must have been scarce on the shores of Newfoundland, or he would have had a skin of it sent to him along with the Newfoundland Razorbill.

It has already been mentioned (Ibis. 1861, p. 387, note) that Mr. Scales saw several Great Auk's eggs in 1816 or 1817, in Dufresne's possession at Paris, one of which Mr. Scales obtained from him. I think I have satisfactorily accounted for two more of them.

I am &c.,

H. W. Feilden.

Scarborough, 21st April 1869.

We fear that ornithology has suffered a great loss in the death of our correspondent Mr. James Hepburn, of Vancouver Island, a gentleman who had for many years past been devoting himself to the study, as may be seen from a passage in our last volume*. He had made himself well acquainted with the Pacific coast of North America from Mexico to Alaska, and we had been in great hopes of soon receiving from him much of the information he had thereby acquired, all of which there is reason to think has perished with him.

---

† Ibis, 1868, p. 416.

THE IBIS.

NEW SERIES.

No. XX. OCTOBER 1869.

XXXII.—*Further Notes on South-African Ornithology.*

By E. L. Layard, F.Z.S. &c.

With much gratification I again offer to the readers of 'The Ibis' some additional notes on South-African ornithology; I say gratification, because this and the two former papers which I have written for 'The Ibis' are the results of observations drawn out by my work on the Birds of South Africa. My aim has so far been accomplished, and I trust that the impetus given to the study of our avifauna may be lasting and useful. At some future day I hope to gather all these new materials into a second edition.

10. Aquila pennata. I obtained this pretty little Eagle in the neighbourhood of Saldanha Bay, on the west coast. A kind friend residing in the vicinity has collected an extensive series of eggs for me; and as the locality is a very favourable one, his name will often appear in these Notes. Mr. J. Cotzé, jun., aided by his children and his neighbour, Mr. Melk, procured several nests of this bird. They were placed in trees, very similar to those of *Buteo jackal*; the eggs, generally two, of a dirty white ground, more or less blotched and smeared with light reddish brown; axis 2″ 5‴, diam. 1″ 10‴. My son, Mr. Leopold Layard, also found a nest with a pair of eggs, at Grootevadersbosch, near Swellendam.

14. Spizaetus coronatus. Writing 12th of April, 1869, Dr. Edwin Atherstone says that the taxidermist of the Albany Museum, Graham's Town, "has a young live *S. coronatus*, marked in a manner similar to the adult, thus differing entirely from Dr. Smith's coloured plate of the young (Ill. S. Afr. Zool. pl. 41). There is no doubt of its being a young bird, as it was taken from the nest, and at first was unable to feed itself. Its crest is usually erect." I regret to say this bird has since died; for I was anxious to ascertain what the first moult would show in the way of coloration. A magnificent example was recently trapped in the mountains near Fransch Hoek, about fifty miles from this, after killing several half-grown pigs.

25. Falco minor. Not uncommon about the Berg River, whence Mr. Cotzé has forwarded several eggs. It builds in trees; eggs three in number, usually more or less spotted and stained with dry blood-colour, on a dirty cream-coloured ground, varying very much; axis 1″ 9‴, diam. 1″ 4‴. Mr. Briuk, who resides near Mr. Cotzé, has also sent several eggs of this species.

31. Tinnunculus cenchris. A new correspondent, Dr. Exton, not however collecting in the colony, but at the gold-fields on the Taté, writes:—"North of Sechele's I shot a specimen of this bird from a flock from which I also obtained *T. rupicolus*. They were harrying a flight of locusts, taking them on the wing, striking the insects with the foot, and then conveying them to their bills."

36. Milvus migrans*. The same gentleman writes:—"There are two birds connected with the name of the old chief Mozilikatzé (now deceased), which in habits and disposition afford a happy comparison with his character. One of them, this Kite, is said by the Matabili to be 'the king's bird,' and is in consequence much respected by them. One of the chief's sons examining my specimen said 'we never kill that bird.'

"It is remarkably bold and fearless, dashing down at your very feet for a stray scrap of flesh, or attempting to carry off meat hung up to dry in the native fashion. It does not seem very choice in its food. The stomachs of those I examined contained locusts and lizards; and I have seen family parties dining, after the manner of Vultures, off the putrid carcass of an ox. They breed about the time the locust-larvæ become developed, the young birds taking wing when the 'hoppers' are becoming strong on the ground. They then congregate in flocks; and I have counted between eighty and ninety hovering over an army of infant locusts, and have seen them in still greater numbers, some on the ground busily devouring the 'hoppers,' others perched on neighbouring trees gorged with a full repast. The Matabili name is 'Mezwazwa.'"

---

* I accept Mr. Gurney's rectification of my nomenclature.

37. Milvus parasiticus. Eggs of this species procured by Mr. Cotzé are dull white, sparsely spotted, blotched and streaked, generally at the thick end, with dry blood-coloured markings; axis 2″ 3‴, diam. 1″ 9‴.

40. Accipiter tachiro. Mr. A. F. Ortlepp says, "by no means rare near Colesberg, in the timber skirting the Orange River. Easy of approach, feeds on small birds, beetles, and so forth."

48. Serpentarius reptilivorus. Contests between this bird and snakes have often been described; but my friend Mr. Atmore furnishes evidence that the bird is not always victorious. He says, "if the snake bites a feather [he means the shafts of the large primaries: I questioned him on this point], the Secretary pulls it out immediately. On one occasion I saw one leave off fighting and run to a pool of water, where he suddenly fell down and died. On examining him I found the snake had drawn blood from the joint of the pinion."

83. Hirundo gordoni. Mr. Arnold, a gentleman who accompanied Mr. Faulkner in his expedition up the Shiré River, describes this Swallow as very abundant on that stream. I suspect that Wahlberg got it very far to the northward, and that it must be excluded from my list.

84. Cotyle ambrosiaca. This bird must be removed from its place in my list among the Martins, and transferred to the

Swifts. It occurred plentifully in the late Mr. Andersson's collection, which I looked over before it left these shores, and was obtained by him in Damaraland. I have no doubt in my own mind that this is the origin of Le Vaillant's "Hirondelle huppé" (pl. 247). It probably occasionally finds its way down the west coast, to where he collected; he saw it on the wing but failed to get it, and on his return to Europe fancied he recognized its deeply forked tail and lengthened wing in the Indian *Macropteryx cristata.* A Swallow has been named to me as building in the palm-trees (*Borassus*) about the Zambese River. I suspect this must be the bird meant, and that, like the little *Cypselus batassiensis* of Ceylon, it glues its nest to the under surface of the dead pendent leaves.

96. Coracias caudata. This is the other bird to which Dr. Exton alludes. He writes:—"From Sechele's northwards *C. caudata* is commonly known as 'Mozilikatzé's bird,' its liveliness and pugnacity perhaps having given rise to the old warrior's interest in it. In his earlier career Mozilikatzé claimed its feathers solely for royal use and adornment, and in his milder moods has been known to give an ox to the youth who had captured and presented one of these birds. It delights to perch on the topmost branch of a leafless tree, from which it gives forth its note of challenge; and should a crow or hawk approach, it will make rapid darts at the intruder, and with sharp pecks and harsh screams drive off birds greatly its superior in size and strength. Bechuana name 'Le cler-cler,' Matabili 'Fe-fe.'"

105. Alcedo semitorquata. My son has procured several of these lovely Kingfishers on the Salt-river and the Liesbeck, both near Cape Town. Mr. Atmore writes that it breeds in holes of banks. At Kykoe he took a nest with three eggs, white and polished in the usual manner.

119. Irrisor erythrorhynchus. Mr. Atmore writes, "abundant in the head waters of the Gamtoos river, in mimosa-thickets." Mr. Ortlepp says, "well known in Zuurbergen, breeds in hollow trees, the nest having the offensive smell of that of other Hoopoes."

125. Nectarinia collaris. The true habitat of this pretty little species seems to be further east than the Gamtoos river, where Mr. Atmore, who knows it well, never met with it. Mrs. Barber sends it from the New-Year's river, and Dr. Edwin Atherstone from the mouth of the Kleinmonts river, eight miles east of the Kowie.

169. Drymœca subflava. Mr. Ortlepp has sent me seven specimens from Colesberg, which lead me to think that "Le Citrin" of Le Vaillant (pl. 127) is identical with *D. pallida*, Smith (No. 147), and that *D. pectoralis*, Smith (No. 146), is but the male. Unfortunately Mr. Ortlepp has left Colesberg; and I am therefore precluded from obtaining a good series of these birds, to set the point entirely at rest. I mention it here in the hope of calling attention to the subject*.

174. Calamodyta babæcula. "La Caqueteuse," Le Vaillant (pl. 121, fig. 1).

175. C. bæticula†. "L'Isabelle," Le Vaillant (pl. 121, fig. 2).

176. C. rufescens (Keyserl. & Blas.).

177. C. gracilirostris, Hartl. I think I can clear up the confusion existing in the identification of the first two of these four species, a confusion to which I have unfortunately added by a *lapsus calami*, writing "*Calamodyta rufescens*," instead of "*C. gracilirostris*" (No. 177), under the head of *C. babæcula*. I had my suspicions then that the "*Caqueteuse*" would prove to be the larger species *C. gracilirostris*; and these have been confirmed by my shooting that bird in considerable numbers in the marshes formed by the overflow of the Berg River, and by Mr. Cotzé obtaining the nest and eggs. These latter are dirty white or cream-colour, spotted and blotched chiefly at the obtuse end with brown and purple blotches; axis 9‴, diam. 6½‴. Verloren Vley is about twenty miles from where I procured *C. gracilirostris*; and I doubt not it is found on all intermediate beds of reeds. Its habits and note quite agree with Le Vaillant's description.

[* *Cf. suprà*, p. 291, Ed.]

[† This word should be *bæticata* according to Professor Sundevall (Krit. framst. L.V. No. 121, 2).—Ed.]

C. gracilirostris must, I conceive, sink into a synonym of *C. babæcula* (Vieill.), and *C. rufescens* (Keyserl. & Blas.) into a synonym of *C. bæticula* (Vieill.) ; Le Vaillant's figures are badly drawn, but I feel sure they are intended for these species.

184. BRADYPTERUS LAYARDI. This rare species has again rewarded Mr. Atmore's vigilant eye and ready hand. Early in this year he shot one near Forest Hall, Plettenberg Bay, the residence of Mr. Newdigate. He writes:—"I was looking for a survey station, when she flew out of some dense scrub, and I dropped her. In the scrub was a cupped nest shaped like that of No. 172 [*Drymœca africana*], not quite finished. I hunted in vain for the male, and never passed the spot without a search, as well as looking into every similar place; but this was all I saw. Its habits are exactly like those of No. 172, but it is even more difficult to raise from its cover; its flight is only a feeble flutter." Mr. Atmore procured the type specimen on which Dr. Hartlaub founded his species and the genus (*Phlexis*) which he has formed upon it. I shall have much pleasure in forwarding this second specimen to my learned friend, and Mr. Atmore has promised to keep a sharp look out for more.

187. BRADYPTERUS SYLVATICUS, Victorin. I believe this to be identical with No. 186, *B. platyurus*. I have procured a few of the former from some extensive beds of reeds on the Cape Flats, near Wynberg. Its habits accord with Le Vaillant's description, as far as I saw.

193. SAXICOLA BIFASCIATA. Mrs. Barber has sent the nest and eggs of this handsome Chat. The former was taken from a hole in a kraal-wall, and is a loose untidy structure of fine rootlets and hair. The latter are pale and creamy-white, rather profusely speckled, especially at the extreme obtuse end, with small elongated reddish-brown specks ; axis 11‴, diam. 8‴.

195. SAXICOLA MONTICOLA. Mr. Ortlepp, from Colesberg, and Mr. Jackson, from Nels Poort, both send eggs of this Chat. They are light bluish-green, rather closely specked with red-brown, chiefly at the obtuse end; axis 12‴, diam. 8‴. Mr. Jackson writes:—"Among the eggs I now send you, are fourteen

of No. 195, all from the same pair of birds, our old friends of last year. This makes thirty-four of the sort, all or nearly all from the one pair of birds!! They build in my kraal-walls; and no sooner are their eggs taken than they set to work and make up another nest in a fresh place, finish it, and lay again in a very short time."

198. SAXICOLA INFUSCATA. Sir A. Smith describes this as the "rarest of the South-African *Saxicolæ*," and "principally, if not entirely, restricted to the districts between the Oliphant and Orange Rivers, and seldom occurs far from the sea-coast." I saw it abundantly between Saldanha Bay and Mamre on the west coast. Mr. Jackson has it plentifully at Nels Poort, and Mr. Ortlepp at Colesberg. Eggs from the former are of a lively light verditer, much speckled with rather large dark red-brown spots and blotches, sometimes forming a ring at the obtuse end; axis 11‴, diam. 8‴. They are well marked and handsome eggs, and the nest is cup-shaped and placed in a bush.

204. SAXICOLA MARIQUENSIS. Mr. Ortlepp finds this species at Colesberg.

218. ZOSTEROPS LATERALIS. Mr. Ortlepp has sent two specimens of this pretty little bird from Colesberg. Wahlberg's "Upper Kaffraria" is probably further to the northwards.

221. MOTACILLA AGUIMP. Eggs sent by Mr. Ortlepp are light brown, profusely speckled throughout with dark brown, chiefly at the obtuse end; axis 11‴, diam. 7‴. They were procured on the banks of the Orange River.

223. ANTHUS CAPENSIS. Eggs of this species vary much, as do those of all the genus; they are usually of a whitish or cream-coloured ground, plentifully spotted, but chiefly in a ring at the obtuse end, with brown and pale purplish spots of different shades and sites; axis 13‴, diam. 9‴.

Mr. Atmore says it is not found anywhere on Karroo soil.

226. ANTHUS SORDIDUS. Found at Colesberg by Mr. Ortlepp, but sparingly.

228. Anthus leucophrys. Nest, a cup under a tuft of grass. Eggs very variable, usually a cream-coloured ground, profusely spotted throughout, but closest at the thick end, with spots of various shades of brown and purple; axis 11‴, diam. 7″.

230. Anthus caffer. Eggs sent by Mr. Ortlepp are dirty white, spotted with dark and light brown spots of various sizes; axis 9½‴, diam. 6½‴.

—— Anthus chloris, Licht., Cat. 1842, sp. 49; Bonap., Consp. Av. i. p. 248.

This new addition to the Cape fauna was shot near Graham's Town, and forwarded for my inspection by Mr. Glanville, the courteous curator of the Albany Museum, to whom I am indebted for many very interesting specimens that have lately been discovered in that neighbourhood.

244. Petrocincla explorator. Eggs of this fine Rock-Thrush precisely resemble those of the preceding species, *P. rupestris*; and it breeds in similar places.

270. Platystira pistrinaria. The nest of this species, which eluded the researches of Le Vaillant, is one of the prizes that has rewarded my son's early efforts in collecting. On the 20th of last November he discovered a nest at Grootevadersbosch near Swellendam, built in a "wait-a-bit" bush, about six feet from the ground, cup-shaped, formed of bents and fibres, lined with horse-hair, and covered externally with lichens. The eggs, hard-set, were of a dull white, tinted with green, more or less spotted with pale brown dots, and surrounded at the obtuse end by a very broad band of close-set, large, brown and brownish-purple blotches; axis 9‴, diam. 6½‴.

273. Tchitrea cristata. My son has been fortunate enough to find several nests of this Long-tailed Flycatcher. They resemble those of the preceding, but are larger. The eggs are of a rich cream-colour, spotted, chiefly at the thick end, with rich red spots, with here and there a dark purple one. These spots usually form a more or less distinct circle at the extreme top; at other times they are distributed generally over

the whole surface. Altogether it is one of the richest-looking eggs I know; axis 9‴, diam. 6‴.

277. Tchitrea cyanomelas. Another of my son's prizes that escaped Le Vaillant is the nest of this very local Flycatcher. He has sent several specimens of the bird, both male and female, from Grootevadersbosch, and one nest with two eggs. The former is cup-shaped, covered with moss and lichens, and was placed in a "wait-a-bit" bush about breast-high, close to that of the preceding. The eggs, of a pale cream-coloured ground, are profusely spotted and blotched in a band near the thick end with red, brown and purple; axis 8‴, diam. 6‴. They much resemble those of the preceding (No. 273), but are not nearly so rich-looking.

301. Dicrurus musicus. In addition to the eggs previously described in 'The Ibis' (1868, p. 246), my son has sent several more specimens, some of which exhibit a singular variation. Had he not on each occasion seen the parent bird *on the nest,* I should have doubted the correctness of his identification; but there cannot be any mistake, and his capture confirms another single egg, which was given me some years ago, as the egg of this species; but as it differed so much from those figured by Le Vaillant, and the donor was not an experienced collector, I doubted it. They are a deep rich pink (nearly salmon-colour), marked throughout with darker (browner-pink) spots, interspersed with purple, chiefly in the form of a ring at the thick end. The markings are larger and coarser than in the pale variety.

The nest is lightly made, but not so light and transparent as that figured by Le Vaillant (pl. 168).

347. Buphaga africana. This species seems common in the Matabili country, whence Dr. Exton has sent several specimens. He describes the irides of the male as deep orange-red, while those of the female are orange-yellow.

359. Hyphantornis capitalis. Messrs. Henry Jackson, of Nels Poort, Sidney Jackson, of Brakfontein, Ortlepp, of Colesberg, and Cotzé, of Berg River, have each of them sent *pure white* eggs

found in the nests of these birds. This shows over what an extent of country this variation extends, and that it is not confined to the birds breeding in this neighbourhood.

381. Estrelda astrild. Mr. Atmore sends a nest of this little species, with the following interesting note:—"You know what a funny whisp of a nest it makes, and how carefully concealed! but how such small birds carry such large bents of grass is a puzzle to me. The inside is very warm and comfortable; and what may be called the framework of the nest is very nicely contrived, so that all the ear-ends of the grasses are woven together to form a pipe, where the entrance is. This nest was in a thicket of brambles and fern, about six inches from the ground; even after the birds flew out, it required a good search before I could find it. There were twelve eggs in it (whether more than one hen lays in a nest I cannot say, but only one flew out); these were in all stages of incubation, two not at all set, more much set-on, and four or five had the young birds so large I could not blow them." I have always heard that several hens laid in one nest; and this in connexion with the facts stated in 'The Ibis' (*suprà*, pp. 74, 75) seems to indicate that polygamy does exist among birds of this family.

383. Estrelda rubricata. Mrs. Barber has found this pretty little Amadavat near Graham's Town, and sends a nest and eggs, the latter pure white; axis $7'''$, diam. $5\frac{1}{4}'''$.

390. Estrelda polyzona. Mr. Ortlepp writes from Colesberg:—"Iris light yellow, tinged with brown. In rising utters a sharp chirp, then falls suddenly to the ground."

396. Amadina alario. Eggs sent by H. Jackson and others much resemble those of the Cape Canary (No. 399), being white tinged with green, more or less spotted, blotched and streaked, chiefly at the obtuse end, with various shades of brown; axis $8\frac{1}{2}'''$, diam. $6'''$.

403. Fringilla striaticeps. This species, which was described, for the first time, from specimens sent home by me to Dr. Hartlaub, has been found by my son breeding at Grootevadersbosch, whence came the type specimens. Its nest and eggs

are just like those of a *Crithagra*, and placed in similar positions. Its habits also so closely resemble those of *Crithagra* that I passed it over as *C. sulphurata* (No. 440) in winter plumage, until I shot one.

—— Xanthodira flavigula, Sundev.; Bonap., Consp. Av. i. p. 513.

The addition of this new species to the list of our South-African birds is due to some gentleman near Graham's Town, whence it was sent for my inspection by Mr. Glanville, my brother curator. Mrs. Barber also has sent a second specimen; and I saw it in Andersson's Damara collection, when looking over it previously to its transmission to England.

438. Certhilauda coronata. Mr. Ortlepp has been fortunate enough to discover the eggs of this fine Lark among the number of good things that he has found at Colesberg. He describes the nest as "a cup-shaped structure of grasses, placed in a tuft of grass on the ground." The eggs are a clear, pale cream-colour, spotted throughout with red-brown and purple, rather inclining to form a ring at the thick end; axis 11‴, diam. 8‴.

441. Crithagra selbii. Eggs from Mr. Cotzé exactly resemble those of *C. sulphurata* (No. 440), but are a shade larger, and more pointed at the thin end. The nest is the same and placed in similar situations.

444. Crithagra chrysopyga. Mr. Ortlepp sends this Bullfinch from Colesberg, in non-breeding plumage, also from near Bedford.

445. Crithagra flaviventris. I have before (*suprà*, p. 75) expressed my suspicion that *C. strigilata* (No. 443) might be the female of *C. butyracea*; and I now add that I fancy *C. flaviventris* is probably identical with it, or with some other of our well-known species of *Crithagra*. *Crithagra* (?) *africana* (No. 446), "*Le Verdier sans vert*" of Buffon, is another of these doubtful species. I should remark that in winter all our *Crithagræ* put on the grey livery, and only assume the bright yellow stripes and under parts and green upper plumage in the season of love. I

have noted this change in my aviary, so that I can vouch for it, and I feel confident that Swainson and others have described birds in nuptial and non-nuptial dress as different species.

450. Turacus persa. My indefatigable correspondent Mr. Atmore writes me word that, though the nest of this bird still eludes his search, an old forester assured him that he had often seen them, that they were like those of *Turtur semitorquatus* (No. 510), the eggs being quite white.

452. Schizærhis concolor (*cf.* Ibis, 1868, p. 268). Dr. Exton has sent this species from the Taté and Mozilikatzé's country, where he states it is very abundant; and I hear of it a long way down the west coast towards Natal, wherever there is enough timber for it.

453. Buceros coronatus. Mr. Atmore writes from Genevafontein, George, March 16th, 1869:—"My garden is now full of Hornbills; but as they eat nothing but locusts, I do not shoot them; besides they are in bad plumage." It will interest my readers to know that Mr. Atmore is settled on the scene (almost the very spot) where Le Vaillant chiefly collected, and where the lovely "Narina" charmed his sight. If she decorated her person with the usual red clay, buchcu, and rancid fat, I cannot say much for the Frenchman's nose; but "adversity makes one acquainted with strange bedfellows," and so does travelling in South Africa.

461. Psittacula roseicollis. Mr. Ortlepp informs me that this species and *P. meyeri* are plentiful on the Limpopo, and are great favourites with the boers, who keep them as pets, along with the pretty little *Galago moholi*. Dr. Exton sends *P. meyeri* from Mozilikatzé's country, *marked with a broad bar of yellow across the head.* Mr. Gurney also has received similarly marked specimens from Mr. Ayres [*cf. suprà*, p. 296]; and it is probable that the birds of the eastern coast constitute a well-marked race, or variety, from those of the west.

468. Megalæma barbatula. This pretty little Bucco is plentiful near Graham's Town, and on the eastern frontier.

477. Indicator major. Mrs. Barber writes that this Honey-bird lays its eggs in the nests of *Læmodon nigrithorax* (No. 465), which is common about Highlands, near Graham's Town. My friend, with whom I have been corresponding on the subject, gives battle in defence of her favourites, and denies that they will lead the hunter to a leopard or snake (*cf.* B. S. Afr. p. 242), and she accounts for persons coming on these animals (and others) by saying that they fall in with them accidentally while following the Honey-guide through the forest. However, she shall plead her own cause:—" Regarding the 'tiger-leading propensities' (as you term them) of the Honey-guide, our Eastern-districts Court is not inclined to abide by the verdict of 'guilty' passed by yours of the Western districts upon the bird in question; neither is the explanation which I gave you 'an ingenious' one of my own invention, as you seem to believe or imagine. What I wrote to you in a former letter is the opinion of many old bee-hunters in this part of the country, who have no faith in the popular belief [that leading to the leopard is done on purpose]. My nine brothers, who were all brought up in this country, were all of them great hunters (as well as sportsmen); and during all the years of their experience in bee-hunting, and especially while they were living at Tharfield, where bees' nests were exceedingly plentiful, where they were constantly in the habit of following these birds, never once did the Honey-guide ever lead them, *purposely*, to any noxious animal. Many times in following the bird through dense woods have they started various kinds of creatures; but if they did not neglect the bird for the purpose of hunting, she would continue her flight towards the bees' nest, regardless of the startled animals. One of my brothers once, while following a Honey-guide through a dense forest near the Kowie, passed directly through a drove of wild pigs. They were of course more frightened than he was, and rushed about in every direction; but my brother, knowing the popular belief, and wishing to test it, took not the slightest notice of the wild pigs, but passed on, keeping his eye on the bird, which went steadily on her way, until she arrived at the nest she intended to show, regardless of the pigs.

"I have other reasons for not believing the story. Why should the Honey-guide waste her time in leading people to leopards, jackals, wolves, and so forth? These creatures are not her natural enemies; she would gain nothing by doing it—no advantage whatever; and I have ever found that in nature there is nothing done in vain, or in an empty purposeless manner. There is always a reason for the peculiar habits and actions of birds and animals of all kinds; and therefore why should a bird, which does not even rear her own young, and has not the care of a nest, fear or care about these animals? Why should the Honey-guide, unlike all other animals, do this thing without any reason for doing it?

"And, again, when the bird has arrived at the nest she intends to show, there is an alteration in the notes of her voice. An old bee-hunter knows this in an instant, and knows when he ought to commence searching for the nest. Now this alteration never takes place when animals of various kinds are startled in passing through the forest while following the bird. Hence I conclude that she does not intend to show where these creatures are, or the alteration in her voice would take place."

The counsel for the defence certainly makes out a strong case for her clients; and (not to mention her own) from what I know of the keen powers of observation of more than one of the nine brothers—men renowned throughout the country for their deeds in Kaffir wars and hunting-fields, I am forced to say I incline, as chief justice sitting in review on the case, to give a verdict of "not guilty;"—Honey-guide discharged with a caution!!

510. TURTUR SEMITORQUATUS. In mentioning this species I forgot to notice Le Vaillant's "*Tourterelle blonde*" (pl. 268), which he avers he found on the borders of Great Namaqualand, and supposes to be the origin of the European *T. risorius*. I do not believe in the existence of such a bird in the locality assigned to it by him, having failed to find it in any of the collections formed by Andersson, Chapman, and others in Otjunbinque, Damaraland, Walvisch Bay, and elsewhere, though the common Cape species *T. semitorquatus* occurred very frequently.

522. Francolinus nudicollis. Eggs of this species procured by my son are precisely similar to those of *F. clamator* (No. 251).

523. Francolinus adspersus. Mr. Chapman brought me eggs of this species from Namaqualand. They are very singularly shaped, appearing as if truncated at each end. The shell is very thick, being the twenty-fourth part of an inch, very dense and heavy, inside pure white and iridescent, outside very pale cream-colour; axis 1″ 7‴, diam. 13‴.

526. Francolinus levaillanti. Eggs sent by my son from Grootevadersbosch are rather larger and redder-coloured than those of *F. afer* (No. 525); axis 1″ 8‴, diam. 1″ 4‴.

529. Francolinus natalensis. Specimens of this Francolin, with its eggs, have been sent by Mr. Arnott from Mahura's country; the latter are pale brown, immaculate; axis 1″ 8‴, diam. 1″ 5‴.

533. Turnix hottentota. Mr. Atmore writes:—"I have taken several nests of this bird; one was on a rocky mound near Swellendam, the others on the Ruggens. I never saw one in a vley. Eggs, five in number, much pointed and very like those of our Ring-Dotterel, *Charadrius tricollaris*." Mr. Atmore is not far wrong in the resemblance. Some sent me by Miss A. Vander-Byl are very abruptly pointed, and densely covered with small dark brown spots on a light grey-brown ground, closely resembling those of the Ceylonese *Turnix ocellata*; axis 11‴, diam. 9‴.

538. Pterocles variegatus. (*Cf.* Ibis, 1868, p. 269, & 1869, p. 78.) This species, with its eggs, has been sent from several places far within the limits laid down in my 'Birds of South Africa.' The eggs are a pale dull greenish-brown, spotted with light brown and indistinct purple, and upon this more sparsely spotted with dark brown.

549. Eupodotis afroides. Eggs, from Dr. Exton, are similar to those of *E. afra* (No. 548).

553. Cursorius senegalensis. A single specimen answering in every respect to this bird was shot by Dr. Exton at Dag-

gaboer's-neck in the eastern Province, from a flock of *C. burchelli* (No. 551), with which, after a careful comparison, I believe it to be identical. It is the same in size; and I conclude that its brighter and more developed colours are the result of more mature age.

574. Anthropoides stanleyanus. Mr. Ortlepp writes:—"Their principal food is small bulbs. When they have the chance they pass the night sleeping in the water, knee-deep, and in the winter months are frequently found with their legs frozen fast in the ice."

575. Balearica regulorum. A magnificent egg of this species, sent by Mr. Arnott to the South-African Museum, and procured in Mahura's country, is of a dull pale brown tinged with green, and obscurely marked, chiefly at the obtuse end, with faint reddish-brown confused blotches and spots with here and there a dark mark standing out prominently; axis 3″ 6‴, diam. 2″ 5‴. The egg of the Balearic Crane figured by Dr. Bree in his 'Birds of Europe' gives a very fair idea of the egg sent by Mr. Arnott; only the spots are more concentrated and fewer, and the ground is greener. But (*cf.* Ibis, 1868, p. 256) Mr. Ayres sends an egg which is described as *white* and *glossy*. This is totally different from the egg in question. The "green lining-membrane" is very visible in the Museum specimen when held to the light.

576. Ardea goliath. Mr. Atmore says he has seen this noble Heron at Zoetendals Vley. Mr. Arnott forwards an egg which I can assign to no Heron but this. It is similar to that of *A. cinerea* (No. 577), but larger; axis 3″, diam. 2″.

577. A. cinerea
578. A. atricollis
579. A. purpurea

Eggs of these three Herons have been sent by Mr. Cotzé, and those of the first by Miss A. Van der Byl.

600. Mycteria senegalensis. Dr. Exton found this fine Stork in the Matabili country; and a gentleman belonging to H. M. S. "Petrel," who has lately been up one of the rivers running into Delagoa Bay, tells me saw it abundantly along its banks and in the marshes.

624. Gallinago æquatorialis. This Great Snipe breeds in many places in the colony. It is extremely abundant in the vleys formed by the sluggish waters of the river Zonder-end. Its eggs are of a darkish olive-green ground, much blotched and spotted with darker brown. Their shape is very broad at the obtuse end, and tapering to an abrupt point at the other; indeed they exactly resemble those of the Solitary Snipe of Europe; axis 1″ 9‴, diam. 1″ 3‴.

632. Ortygometra crex. Dr. Edwin Atherstone writes from Graham's Town, April 19, 1869:—"This species has been very plentiful this season near the coast."

636. Corethrura ruficollis. I lately shot a male of this rare Water-hen at French Hoek, and my son sent the eggs and a female captured on the nest from Grootevadersbosch. The primaries are pure white, and rather sharply pointed at the small end; axis 1″ 1‴, diam. 9½‴.

648. Chenalopex ægyptiacus. Mr. Atmore writes:—"At Gauritz River they breed on ledges of rocks, 200 feet above the level of the water, in company with *Gyps fulvus,* and appear quite friendly with them."

649. Nettapus madagascariensis. A fine pair, male and female, of this lovely little Goose were killed by Mr. J. Nightingale in a small vley near Alexandria last year (1868); and one or two other specimens obtained in the colony have fallen under my notice.

658. Rhynchaspis capensis. This species, called "Slop" by the colonists, is abundant on the Knysna lakes, Vogel Vley, near Wellington, and at the Berg River, whence Mr. Cotzé sends eggs of a delicate cream-colour tinged with green; axis 2″ 2‴, diam. 1″ 6‴.

677. Diomedea chlororhyncha. Called the "Pretty bird" by the sealers. Breeds on the Crozette Islands. The eggs exactly resemble those of *D. melanophrys* (No. 676).

700. Graculus africanus. Seems widely distributed over the whole of South Africa. It is common on the Berg River,

and, according to Mr. Cotzé, never descends to the sea. Eggs from him are of the usual pale blue-green, covered with chalky matter; axis 1″ 7‴, diam. 1″ 2‴, similarly shaped at both ends.

A sealing-vessel, just returned from the Crozette Islands, brings up thirty-seven tuns of oil made from the *skins* of the Maccaroni Penguin (*Aptenodytes chrysocome*). I am told it takes the skins of 1400 birds to make one tun of oil; at this rate 51,800 birds have been destroyed for this one cargo! A man can catch, kill, and strip the skins from 350 or 360 birds in a day. How long will the race of Penguins last? How long before they are numbered, with the Great Auk, among the things that were?

Another vessel from the islands about Tristan d'Acunha has brought many live examples of the curious *Gallinula nesiotis*, or Island-hen, four of which are now running merrily about in my aviary, also three of the Island-Thrushes and their eggs, and a Finch (*Hyphantornis*?), and a lot of eggs of sea-fowl; but of these I must make a further examination and report.

South-African Museum, June 18, 1869.

XXXIII.—*Remarks on some species of Birds from New Zealand.*

By Dr. O. Finsch, C.M.Z.S. &c.

In a large collection of birds which I lately received from Dr. Julius Haast, the well-known explorer of New Zealand, I was very much pleased to find some of the species lately described as new by Mr. Walter Buller, in his 'Essay on the Ornithology of New Zealand'*, or in his paper in 'The Ibis' for the present year (*anteà*, pp. 37–43). A careful examination showed me at once that some of those so-called new species are by no means new to science; therefore it will, perhaps, be a matter of some interest to the readers of this Journal, as well as to ornithologists in general, to become acquainted with the results of my studies.

Platycercus alpinus, Buller, Ibis, 1869, p. 39.

Two specimens, male and female, from the Southern Alps, and marked as types of Mr. Buller's supposed species, are not distinguishable from the old known *P. auriceps*, Kuhl, either in size or colouring. Mr. Buller characterizes the new species by the orange frontal band, and by the orpiment-orange (instead of crimson) thigh-spots; but these slight differences are by no means specific, and only indicate the young bird. In my Monograph of the family *Psittacidæ* (vol. ii. p. 286) I described such a younger bird, from a specimen in the Bremen Museum, which corresponds in every respect with *P. alpinus*, Bull.

---

* Translated by me in the 'Journal für Ornithologie' for 1867, pp. 305–347.

NESTOR MERIDIONALIS (Gmel.).

Two specimens from the west coast of the South Island, the same locality from which Mr. Buller described his new *N. occidentalis* (*suprà*, pp. 40, 41), and most probably belonging to this species, I cannot distinguish from the true *N. meridionalis*. There are slight differences in the shade of their colouring, as well as in their size; but it must be remembered that all the species of *Nestor* vary very much, as I have already remarked in my Monograph, wherein will be found a full account of this subject. In any case *N. occidentalis* needs a more minute description of its distinctive characters before it can be enumerated in the list of good species.

I take this opportunity of adding an interesting notice respecting the systematic place of the genus *Nestor*, which Dr. Haast was kind enough to send me. He writes to me, "Your arrangement of the genus *Nestor* in the system is quite right. These birds are indeed honey-eaters; their tongues are armed on the point with papillæ as in the *Trichoglossinæ*." It is of great value to receive a positive statement as to the structure of the tongue in *Nestor*, the subject having hitherto been doubtful. Mr. Gould (Handb. B. Austral. ii. p. 551) declared that the tongue was not "furnished with a brush-like termination," whereas the correct figure of *N. norfolcensis*, given by Herr A. von Pelzeln (Sitzungsb. k.-k. Akad. Wissensch. Wien, xli. 1860, p. 322, cum tab. capit.), shows the papillæ very distinctly. This new fact given by Dr. Haast sets all doubt at rest, and the position of the genus *Nestor* among the *Trichoglossinæ* now becomes evident.

GERYGONE ASSIMILIS, Buller, Essay, p. 9.

Mr. Buller separated this new species from *G. flaviventris* more on account of the difference in the construction of their nests than from any shown by the birds themselves. I therefore expressed my doubts (Journ. f. Orn. 1867, p. 342) whether it was possible to distinguish the bird clearly. A specimen of *G. assimilis*, from Dr. Haast, convinced me at once that the skin of this species is not distinguishable from that of the true *G. flaviventris*. The specimen agrees in every respect with the description and figure given by Mr. Gray (Voy. 'Erebus' and 'Terror,' Birds, p. 5, pl. iv. fig. 1), except that the yellow tinge on the belly is paler; but the specimen is marked as a female.

TURNAGRA HECTORI, Buller, Ibis, 1869, p. 39.

The editor of 'The Ibis' has already suggested that this species is probably identical with *Otagon tanagra*, Schlegel (Nederl. Tijdschr. voor de Dierk. iii. 1865, p. 190). I agree with this supposition; for a careful comparison of the descriptions cannot admit of the slightest doubt as to their referring to the same species.

ANAS GRACILIS, Buller, Ibis, 1869, p. 41.

This is undoubtedly identical with *Anas* (*Querquedula*) *gibberifrons*, Salomon Müller (Verhandelingen Land en Volkenkunde, 1839–41, p. 159), as the comparison of a typical specimen of *A. gracilis* received from Dr. Haast with specimens from Timor in the Bremen Museum shows. The species has a wide geographical distribution. Timor (Sal. Müller, Wallace), Flores (Wallace), Celebes (Forsten), Northern Australia (Leyden Mus.), South Australia (Leyden Mus., Haast), New Caledonia (Leyden Mus.).

PODICEPS HECTORI, Buller, Essay, p. 19; Finsch, Journ. f. Orn. 1867, p. 345.

The distinctive character of this species, from our *P. cristatus* (Linn.), was declared by Mr. Buller to be the absence of white on the wings and shoulders. The collection contains a Grebe which Dr. Haast mentions in his letter as a typical *P. hectori*. This specimen is partially moulting, as is especially shown by the fact that all the remiges are not fully grown, but are almost hidden by the tectrices. By unfolding the wings carefully one can see the white distributed in the same style as in our *P. cristatus*, with which the specimen agrees in every respect. I therefore cannot regard *P. hectori* as distinct from our *P. cristatus* (*P. australis*, Gould).

LARUS (BRUCHIGAVIA) MELANORHYNCHA, Buller, Ibis, 1869, p. 43.

If this species is not identical with the badly described *Larus andersoni*, Bruch (Journ. f. Orn. 1853, p. 102), from New Zealand, which Professor Blasius (*op. cit.* 1865, p. 384), declared to be nothing else than *L. scopulinus*, it certainly will be a good species. I, at least, cannot refer the fine specimen, received from Dr. Haast under the name last mentioned, to any of the known species, and take it for a good species, distinguishable by the slender black bill, tinged with reddish at the basal portion, and by the great extent of white on the remiges.

XXXIV.—*On two more Collections of Birds from the Fantee Country.* By R. B. SHARPE.

(Plate XI.)

SINCE the publication of my previous paper on the birds of the Fantee country (*suprà*, pp. 186–195) I have been favoured with an inspection of two small collections from the same locality. One of these was submitted to me by Mr. Higgins; and the other was sent to me by Mr. Whitely, of Woolwich. I am informed by the latter that the collection forwarded by him was formed in the interior of the Fantee country, on the borders of Ashantee and Dahomey, while the series sent to me by Mr. Higgins was collected, as before, in the immediate neighbourhood of Cape-Coast Castle.

The present paper will be found to contain the names of many rare and interesting species; and it is to be hoped that the collectors on whose labours it is based will be induced to continue their researches, and that ultimately we may become thoroughly acquainted with the avifauna of this little-known part of the Ethiopian region. I have only to add that I am indebted to my friend Dr. Finsch for the identification of the species of the obscure genus *Criniger*, mentioned in this paper, his recent investigations * having rendered him the best authority on this very obscure and difficult group. I have also referred to Dr. Hartlaub's paper on Heer Pel's collections (Journ. f. Orn. 1855, p. 360) wherever any of the species had been already obtained by him in the Fantee country; and a dagger (†) is prefixed to all species believed to be recorded from this locality for the first time.

61. Cossypha poensis, Fras.; Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 77.

One specimen obtained at Dabocrom by Heer Pel.

62. Criniger leucopleurus (Cass.). *Phyllostrephus leucopleurus*, Cass., Proc. Ac. Philad. 1855, p. 328. Hartl., Orn. Westafr. p. 89. "*Trichophorus nivosus*, Temm.," *Id.*, Journ. f. Orn. 1855, pp. 356, 360; *Id.*, Orn. Westafr. p. 84.

One specimen. Cassin's name *leucopleurus* was published in April, and therefore takes precedence over *nivosus* of Dr. Hartlaub (*ex* MS. Temm.), which was not published till September. The type-specimen was obtained by Heer Pel on the Rio Boutry.

63. Criniger tricolor (Cass.); Finsch, Journ. f. Orn. 1867, p. 25. *Trichophorus tricolor*, Cass., Proc. Ac. Philad. 1857, p. 33. "*T. icterinus*, Temm.", Bonap., Consp. Av. i. p. 262; Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 83.

One specimen of this bird, which was first discovered by Heer Pel in Ashantee. I agree with Dr. Finsch in substituting Cassin's name, *tricolor*, for the usually assigned name *icterinus*, which latter ought never to have been published; for Strickland in 1844 named an East-Indian bird *Criniger ictericus* (*vide* Finsch, *t. c.* p. 34, where the full synonymy is given), and it would be decidedly inconvenient to have two species in the same genus having names intended to convey exactly the same meaning, and only differing in one letter.

---

* Journ. f. Orn. 1867, pp. 1-36, 107, 108.

64. Criniger eximius (Hartl.); Finsch, Journ. f. Orn. 1857, p. 31. *Trichophorus eximius*, Hartl., *op. cit.* 1855, pp. 356, 360; *Id.*, Orn. Westafr. p. 85.

Two specimens of this fine species.

65. Oriolus baruffi, Bonap., Consp. Av. (1850), i. p. 347; Hartl., Journ. f. Orn. 1855, p. 360. "*O. intermedius*, Temm.", Hartl., Beitr. Orn. Westafr. (1852), p. 46; *Id.*, Orn. Westafr. p. 81.

One specimen. From the dates above given it will be seen that this species was first described in 1850 by Bonaparte, and that Dr. Hartlaub's name, *intermedius* (*ex* MS. Temm.), not having been published till 1852, must give way to that bestowed upon it by the Prince. This species was first discovered by Heer Pel in Ashantee.

†66. Nectarinia pulchella (Linn.); Hartl., Orn. Westafr. p. 52.

Two specimens of this bird are in the present collections, and this is apparently the first record of the species from this locality.

†67. Nectarinia angolensis (Less.); Hartl., Orn. Westafr. p. 45.

One specimen of this rare Sun-bird, which has never before been met with in the Fantee Country.

68. Elminia longicauda (Swains.); Hartl., Orn. Westafr. p. 93.

One specimen. Procured by Weiss at Elmina, in the Fantee Country.

†69. Telephonus minutus, Hartl., P. Z. S. 1858, p. 293.

There is a specimen of this species in the British Museum, from Ashantee. One example only is contained in the present series.

†70. Laniarius multicolor, Gray; Hartl., Orn. Westafr. p. 108.

One specimen of this very beautiful Shrike, which, I believe, has never been met with before from so southern a locality, the southernmost point at which it had previously been obtained being apparently Sierra Leone.

†71. LAMPROCOLIUS PURPUREICEPS (J. & E. Verr.); Hartl., Orn. Westafr. p. 119; *Id.*, Journ. f. Orn. 1859, p. 23.

One specimen of this fine Glossy-Thrush, which was originally described from Gaboon. Its appearance in the Fantee Country is therefore of very great interest.

†72. ONYCHOGNATHUS HARTLAUBI, Gray, P. Z. S. 1858, p. 291; Hartl., Journ. f. Orn. 1859, p. 36.

One specimen of this extremely rare bird, of which, I believe, only two other examples, the types in the British Museum, are known to exist. Unfortunately my specimen is without its tail.

73. SPERMOSPIZA GUTTATA (Vieill.); Hartl., Orn. Westafr. p. 138.

One female specimen. The specific name is altogether inapplicable to the male bird.

†74. NIGRITA UROPYGIALIS, sp. nov. (Plate XI. fig. 1.)

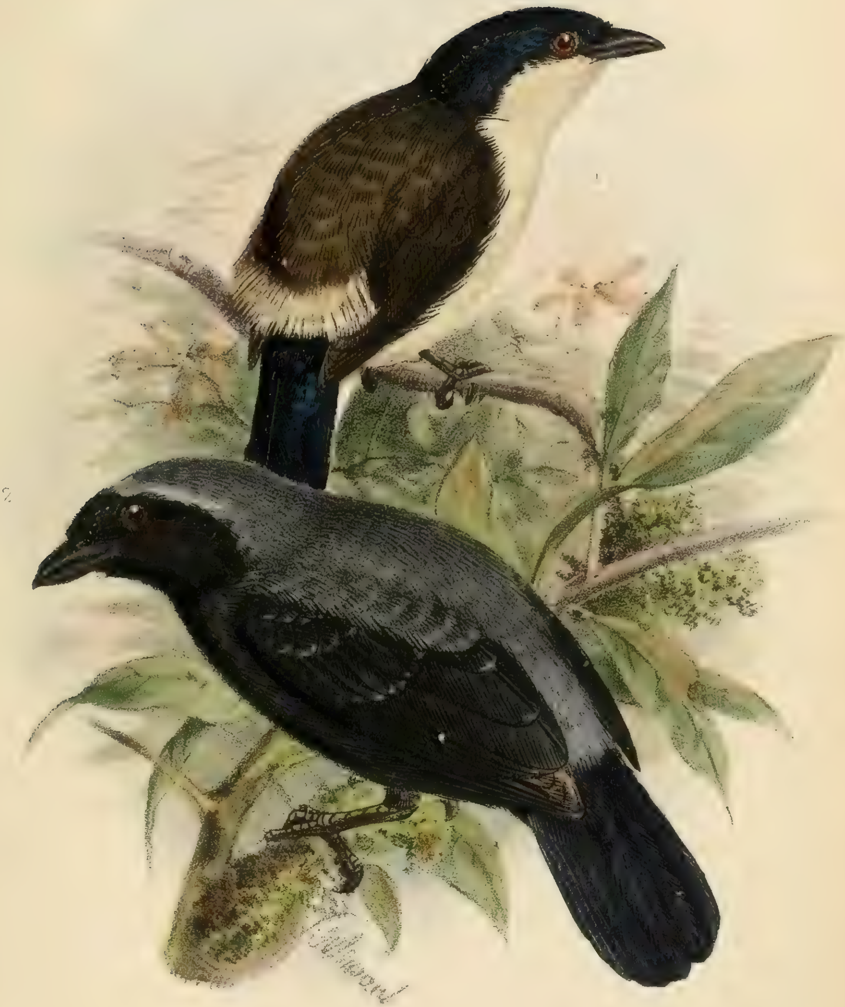
N. *affinis* N. fusconotæ, *sed statura minore et uropygio dilute ochraceo distinguenda.*

This new *Nigrita* is certainly distinct from the true *N. fusconota* of Fraser, the type of which, from Fernando Po, is in the British Museum. A very good plate of that species is given by Mr. Fraser in the 'Zoologia Typica' (pl. 49); and it will be seen that my new bird differs conspicuously by its very distinct cream-coloured rump, that part in the species from Fernando Po being of the same colour as the rest of the back. The following are measurements of the two species taken from the typical specimens.

	Whole length.	Wing.	Tail.
N. fusconota (Fernando Po) . .	4 inches . .	2·15	1·55
N. uropygialis (Fantee)	3·9 „ . .	2·0	1·9

It will be observed that my new species, though generally smaller, has a longer tail than the insular bird. The rectrices also are much more glossy.

†75. NIGRITA EMILIÆ, sp. nov. (Plate XI. fig. 2.)



J. G. Keulemans lith.

M & N Hanhart imp.

1. NIGRITA UROPYGIALIS. 2. N. EMILIÆ.

N. *affinis* N. cinereocapillæ, *sed valde minor, et uropygio dilute cinereo, haud albo distinguenda.*

This new *Nigrita* is closely allied to *N. cinereocapilla* from Fernando Po, of which a good figure is given in Mr. Fraser's 'Zoologia Typica' (pl. 48). It will at once be observed, however, that the bird represented in the accompanying plate is very much smaller, and does not possess the white rump of the insular species. A further examination of the types in the British Museum confirmed my conviction as to their specific distinctness. The following are the measurements of the type-specimens of the two species:—

	Total length.	Wing.	Tail.
N. cinereocapilla (Fernando Po) . .	4·9 . .	2·7 . .	1·9
N. emiliæ (Fantee)	4·3 . .	2·5 . .	1·7

76. Berenicornis albocristata (Cass.). *Buceros albocristatus*, Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 163.

Two specimens of this very beautiful Hornbill. Heer Pel sent it also from Ashantee.

77. Bucorax abyssinicus (Gmel.); *Buceros abyssinicus*, Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 165.

One specimen. Procured also at Accra by Heer Pel.

78. Merops erythropterus, Gmel.; Hartl., Orn. Westafr. p. 40.

One specimen. Not included in the list of Heer Pel's birds, but sent by Weiss from Elmina.

79. Meropiscus gularis (Shaw); Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 42.

One specimen.

80. Musophaga gigantea, Vieill.; Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 42; Schl. & Westerm., Monogr. Toerako's, pl. 12.

One very fine specimen.

81. Ceryle rudis (Linn.); Hartl., Journ. f. Orn. 1855, p. 360; *Id.*, Orn. Westafr. p. 37.

One female specimen is in the present collection.

†82. Ispidina leucogastra (Fras.); Sharpe, Monogr. *Alced.* pt. iv.

One specimen. In the fourth part of my 'Monograph' will be found a figure and description of this rare species, with full synonymy; but the locality should be strictly "Fantee," not "Ashantee," as the bird was sent me by Mr. Whitely before we were aware of the precise spot where the collection had been formed.

83. Ispidina picta (Bodd.); Sharpe, Monogr. *Alced.* pt. iv.

In the collection sent me by Mr. Whitely was a young bird, which differed slightly from the usual young *I. picta*; and shortly after, I found an old bird in Mr. Higgins's collection. These birds differ from all the other specimens of *I. picta* that I have seen, in their smaller size, deep rufous breasts, and also in having a very distinct ultramarine lustre on the cheeks and ear-coverts. Nevertheless I must see a larger series before I can consider it distinct, but I think it just possible that it may be the bird supposed by Cassin to be the *I. nitida* of Dr. Kaup. The true *I. nitida* is nothing more than the young *I. natalensis* (A. Smith); and a figure of the type-specimen, which is in the British Museum, will be given in my 'Monograph.'

†84. Halcyon chelicutensis (Stanley). (*Vide suprà*, pp. 278, 279.)

One specimen.

85. Pogonias hirsutus, Swains.; Hartl., Journ. f. Orn. 1855, p. 361; *Id.* Orn. Westafr. p. 172.

One specimen in fully adult plumage. Obtained also by Heer Pel at Dabocrom.

†86. Trachyphonus purpuratus, J. & E. Verr.; Hartl., Orn. Westafr. p. 175.

Two specimens, apparently not quite adult, of this fine Barbet.

†87. Dendropicus goertan (Gmel.); Hartl., Orn. Westafr. p. 179.

One specimen.

88. Spizaetus coronatus (Linn.); Hartl., Orn. Westafr. p. 5.

One specimen, apparently an old male, in very bad condition. Although not included by Dr. Hartlaub in the list of Heer Pel's birds, the specimen figured in Edwards's 'Birds' (pl. 224) was said to be from Accra; so the species cannot be considered new to the locality.

89. Astur melanoleucus, A. Smith; Hartl., Journ. f. Orn. 1855, p. 353; *Id.*, Orn. Westafr. p. 12.

Mr. Gurney kindly identified the single specimen sent, as a young male of this species. It was also brought by Heer Pel from the Rio Boutry.

90. Huhua leucosticta (Hartl.); "*Bubo leucostictus*, Temm.", Hartl., Journ. f. Orn. 1855, p. 354; *Id.*, Orn. Westafr. p. 18.

In the collection sent by Mr. Higgins I was delighted to perceive an adult and a young specimen of this splendid Owl. Unfortunately we possess no information respecting the colour of the iris, so that I have placed it in the genus *Huhua* provisionally, in expectation that the colour of the eye will be dark-brown, as in its near congener *H. poensis* (*anteà*, pl. iv.). When I have received positive information on this point, I hope to be able to give a plate of this beautiful Owl.

91. Peristera puella, Schleg.; Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 198.

Three specimens of this beautiful Dove. It was procured by Heer Pel at Dabocrom.

92. Peristera tympanistria (Temm.); Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 197.

One specimen.

93. Francolinus lathami, Hartl., Journ. f. Orn. 1855, p. 361; *Id.* Orn. Westafr. p. 202.

One specimen. Procured also at Dabocrom by Heer Pel.

†94. Ardetta sturmi (Wagl. 1827). *Ardea gutturalis* (A. Smith, 1836), Hartl., Orn. Westafr. p. 224.

One young specimen, agreeing well with birds of the same age, obtained by Andersson in Damaraland.

95. Ardetta flavirostris (Wagl.); Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 220.

One specimen.

96. Parra africana, Gmel.; Hartl., Journ. f. Orn. 1855, p. 361; *Id.*, Orn. Westafr. p. 240.

One specimen. This species is apparently plentiful all over Guinea.

XXXV.—*Birds observed during two Voyages across the North Atlantic.* By George Cavendish Taylor, F.Z.S.

Last year I made two voyages between Liverpool and New York. The weather experienced was, with the exception of several days passed in dense fog, most favourable for the observation of oceanic birds, and in this respect was a great contrast to former voyages. I regret not being able to record the latitude and longitude to illustrate my remarks; but in neither voyage was the position of the ship ascertained at noon, posted up, or published.

I left Liverpool in the 'Scotia,' on the 16th of May. The following evening about sunset we passed Cape Clear. On the 18th there were but few birds to be seen, and none came near the ship. When we left the land we left the Gulls. On the 19th, the wind was strong and cold and the sea rough. Shearwaters were seen, and Stormy Petrels, but the latter were not near the ship. The two following days the wind was strong, with a rough sea, and I made no observations.

On the 22nd the weather was the same, but much colder, the effect probably of the arctic current; for we were now nearing the coast of Newfoundland. The birds most abundant were Fulmars, and in a less degree Greater Shearwaters, *Puffinus major*, easily distinguishable by their size and the quantity of white on the head and back. The 23rd was fine and bright, and the sea had gone down. We crossed the banks of Newfoundland, passing the longitude of Cape Race about

10 A.M., seeing, during the day, numbers of Porpoises, and occasionally Whales. In the morning there were large flocks of Shearwaters, *P. major*. As the ship approached they would rise, not in a mass, but in succession, fly half a mile or so forward, and pitch until we again came near them. Towards evening there were not so many; but throughout the day I could see flocks or companies of them, from twenty to one hundred, sitting here and there on the sea, which, being calm, was more favourable for observing than on any previous day. Probably for the same reason I saw more Stormy Petrels, but they did not come near the ship; also three Phalaropes sitting on the water. The latter rose as the ship came near them, and flew straight away. No doubt there were many more; but one cannot readily sight so small a bird at any distance, and not at all if the sea is rough. Long-tailed Skuas, probably *Stercorarius buffoni*, were also of frequent occurrence, but they did not fly near the ship. The next day we ran into a dense fog, which continued almost up to the time of our reaching New York, where we arrived early on the morning of the 26th, and consequently my ornithological observations for this voyage were brought to a close.

On the 15th July, I left New York in the 'China,' homeward bound, in some of the hottest weather I ever experienced. Even after dark, when we were out at sea, where there was a good breeze, the thermometer in the saloon on deck stood at 85°; but this is nothing to what it was while the ship was in the harbour of New York.

On the 17th, about 6 A.M., being off the coast of Nova Scotia, the engines were stopped for repairs; I awoke and went on deck. The atmosphere was clear, and the sea quite calm. The ship was surrounded by numbers of Stormy Petrels—probably *Thalassidroma wilsoni* in the greatest abundance, with a light brown bar across the wings and back. They flew or settled on the water within a few feet of the ship, stopping to pick up anything floating, or that was thrown to them. When the ship resumed her course they left us.

On the 18th, we were enveloped in dense fog. Occasionally the ship passed through an oasis of clear atmosphere extending for a few miles, and then again into another thick bank of fog.

Indeed the fog-trumpet was sounding most of the time after we left New York. Of course, under these circumstances, when it is with difficulty that one can see the length of the ship, ornithological observations become very limited. The air had been getting colder daily, and the passengers were all putting on warm clothes.

On the 19th we passed Cape Race at 4 A.M. Dense fog and unpleasantly cold. Nothing but experience could have made me believe, on leaving New York, where the heat was more than tropical, that so short a time would produce so great a change. At 11 A.M. the thermometer on deck suddenly fell to 37°, no doubt owing to the proximity of ice. Night very thick.

20th, about 9 A.M., we passed within two miles to the south of a large iceberg. Every one rushed on deck to see it; but the atmosphere was thick and hazy, with cold rain falling, so that it did not appear to advantage. It was very symmetrical, with high peaks or pinnacles, and of a dead white—in which I was disappointed, for I had expected to see it more of a bluish tint; but this might have been owing to the absence of sunshine. It stood high out of the water, with sides perpendicular as a wall. There were numerous caverns and recesses, and a wide split or rent, which apparently would soon open and a large portion become detached. It was a fine sight, and on a sunny day would have been magnificent. We probably passed others during the night, but, owing to the thick fog, they were not seen.

21st. The sea was smooth. I saw a large flock of Shearwaters, *P. major*, and occasionally small trips of them during the day. Hitherto I had only seen a few occasionally, and now and then some Fulmars; but the Stormy Petrels were more abundant than they were on the voyage out, generally following in the wake of the ship.

On the 23rd, when we were about 350 miles from the Irish coast, a pair of Curlews passed the ship, bound to the eastward. When I first noticed them they were at some distance, and I saw them through a glass. They then flew near the ship, as if to reconnoitre, and went rapidly ahead, flying just above the surface of the water.

24th. Soon after 11 A.M. the land was sighted, the Skellig Rock, 700 feet high, a breeding-station of Gannets. It has a very picturesque appearance, rising straight out of the sea, with a pointed and serrated top, and a white line like a road winding round its western side. We passed at some distance. The first land neared was the Bull, the westernmost of three rocks, the others being called the Cow and Calf, on the last of which is a lighthouse. The Bull has a passage entirely through its base like an archway or tunnel, apparently (at the distance we were) amply large enough for a railway train to pass through. The rock itself appears like a large heap of limestone. Numbers of white sea-birds were flying around, most probably Gulls and Gannets; but the distance was too great to determine their species, even with a glass; for although the day was fine and, for these stormy regions, very favourable for observation when near, still the atmosphere was hazy: and I consider myself most fortunate; for one rarely has the chance of seeing this locality at all, and still more rarely in fine weather. The outward-bound steamers always pass in the night; and the chance is but small that those homeward bound pass during daylight and enjoy fine weather as well. And there are probably but few days in the year when a small vessel could reach these sea-bird haunts with any certainty of returning within a reasonable time. From here we passed along the coast past Browhead signal-station, then between Cape Clear and the Fastnet Rock, on which the lighthouse is now placed, to Queenstown, arriving there at 10 P.M. Along the coast I observed numbers of Shearwaters, *Puffinus anglorum*—being much smaller and darker in colour than *P. major*, and with sharper points to the wings. There were also rock-birds and Kittiwakes in abundance, and a few Gannets. Here my observations came to an end, excepting only a few Terns seen off Holyhead the following day when we arrived in the Mersey.

XXXVI.—*Notes on the Ornithology of Italy and Spain.*

By Howard Saunders, F.Z.S.

Having passed the last winter and spring in Italy and Spain, I am enabled to offer some further observations upon the ornithology of those countries.

Owing to the oft-remarked scarcity of birds, except Magpies, in France, my outward journey by way of Paris and Lyons calls for no observations. At Avignon there is a tolerable provincial collection in the Musée Requien; but although one of the Professors informed me that *Potamodus cettii* and *Ægithalus pendulinus* were two of the most characteristic birds of the marshy Camargue, he could give me no information as to the breeding-places of *Larus gelastes* and *Phœnicopterus roseus*, the latter being, I believe, a very rare and irregular breeder in that district. Driving from Avignon to Nîmes, some Tawny Pipits (*Anthus rufescens*), a few Crested Larks, small flocks of Linnets, half a dozen Song-Thrushes, and one Redstart (*Ruticilla phœnicura*) were the only birds I saw; but then such a furious *mistral* was blowing as would have prevented any sensible bird from unnecessary locomotion. At Nîmes the collection of the late M. Crespon is going fast to decay; but it is still highly valuable as illustrating the fauna of Provence, and contains a fine series of birds of prey, specimens of *Phœnicopterus roseus* and *Larus gelastes*, with the eggs of both species, taken by M. Crespon himself.

At Marseilles the new Museum was not yet open; so I was unable to examine the *Otogyps auricularis* mentioned in the 'Richesses Ornithologiques du Midi de la France.' With the exception of Rock-Martins (*Cotyle rupestris*) and abundance of Black Redstarts (*Ruticilla tithys*) along the Cornice road to Genoa, my note-book is, ornithologically, silent until my arrival at Milan. Here I visited the superb collection of the Counts Turati, whose complete series of nests, eggs, and down-clad young of the birds which breed in Lombardy is in course of illustration by Signor Eugenio Bettoni (*cf.* Ibis, 1868, p. 106). Although the author mentions *Anthus richardi* as one of the "characteristic species" of the Lombard plain, he must not, I imagine, be understood to mean that it is in any way abundant, or even constant, in that province; for the Counts Turati assured me that it has never been discovered breeding there, and that, judging from the number of specimens enumerated as obtained in England, it is more common with us than with them. That its appearance is confined to the *plains* of Lombardy is probably the author's meaning.

Of course I examined the new and unique European bird *Synœcus lodoisiæ* (*cf.* Ibis, 1862, p. 380), which in my profane ignorance I considered a dark variety of *Coturnix communis*; but not wishing to lower myself further in the opinion of the possessors of this rarity, or of its godfathers, Messrs. Jules Verreaux and O. des Murs, I will limit myself to saying that new Australian species, or whatever it may be, was undoubtedly captured alive in Lombardy, and showed no signs of having escaped from confinement.

In the Palazzo Correr there is a fair local collection, and a far better one at Bologna. At Florence the natural-history department is at present hardly worthy of the new capital of Italy, the finest collections being at Turin, which I was unable to visit owing to severe cold and heavy falls of snow. At Pisa, under the able direction of Dr. Savi, the father of Italian ornithology, whose acquaintance I had the pleasure of making, the Museum would be an honour to any country; and no frequenter of our British Museum could help blushing if he compared the hideously distorted objects which our authorities are pleased to term "type specimens" with these life-like groups from the hand of an Italian at once naturalist and artist. The celebrated groups by Mr. John Hancock, of Newcastle, are the only ones with which I can compare those of Pisa. Especially worthy of notice is a group of Rose Pastors on a fruit-tree, and a flock of Starlings on the decomposed head of a goat. Perhaps the most taking of all is a vixen fox and litter; and, for spirit, a wolf fighting with two sheep-dogs is unrivalled.

But to return to Florence. The Museum possesses a mounted *Alca impennis*, for which, or for another recently purchased for the King, some exorbitant price was paid*. In the Zoological Gardens in the Cascine is an immense live Raven, labelled

---

[* We have some reason for believing that the specimen in the Museum at Florence is one of those that passed through the hands of the late apothecary Mecklenburg, of Flensborg, from whom it was bought by Heer Frank, of Amsterdam, and by him sold to Dr. Michahelles in Nuremberg, whence it was transferred to its present abode. The specimen now in the King of Italy's collection at Veneria Reale was formerly Pastor Brehm's, who obtained it in 1832 from the Museum of Copenhagen.—Ed.]

Corvus maximus, a title he well deserves. The remaining attractions are two Bears, two African Elephants, some Rabbits, Pheasants, Pigeons, and albinisms of *Cervus elaphus* and *C. dama*, which looked very ghastly on a wet December afternoon.

In the market I never found anything worthy of notice; a few Mallards and Pochards, Skylarks, Thrushes, and Jays are all I have noted. A single brace of Barbary Partridges (*Caccabis petrosa*) were held up for sale one day; but it is quite impossible to say whence they came.

Leaving the kingdom of Italy and entering the States of the Church, small birds became more numerous, as did also birds of prey. Near Orte an Eagle, probably *Circaetus gallicus*, was observed sweeping over a wooded ravine; and Kites (*Milvus ictinus*), Marsh- and Hen-Harriers were not unfrequent. During a stay of a month in Rome I observed all the above species on the Campagna, the first being almost as abundant as the Common Kestrel (*Tinnunculus alaudarius*). One *Circus cineraceus* of the year, a Peregrine Falcon, two Sparrow-Hawks, and one common Buzzard, also came under my observation, alive or in the market. Nailed to a barn-door I found the dried remains of *Hypotriorchis eleonoræ*, which, from the size, was probably a female; and this, with *Ephialtes scops* similarly crucified, and *Strix flammea*, completes my list of *Accipitres*. I may add that in the frescoes designed by Raphael on the ceiling of the Farnesine Palace, the "Bird of Jove" depicted is easily recognizable as *Aquila bonellii* in the first year's plumage.

Grey Wagtails, Hawfinches, Greenfinches, Linnets, Bullfinches, Cisalpine and Rock-Sparrows, Buntings, Crested, Sky-, Wood- and Calandra Larks, Blackcaps, Starlings, Thrushes, Blackbirds, and large bunches of Wrynecks make up my uninteresting list of the smaller birds.

Although the Blue Rock-Thrush (*Petrocincla cyanea*) is always to be found about the Coliseum, the Baths of Caracalla, and, indeed, any large ruin, yet I never noticed a specimen in the market, in which respect my experience tallies with that of Mr. Sclater, as expressed in his list of Roman birds, published some years ago (Zoologist, 1854, pp. 4160–4164). Black Redstarts and Rock-Doves (*Columba livia*) are the other inhabitants of

Roman ruins; and along the Appian Way the Stone-Chat is very abundant, being considered too small for "caccia" by the natives. Rooks and Hooded Crows are abundant in the Campagna; and I once heard and saw a small flock of our Choughs (*Pyrrhocorax graculus*). Jackdaws are numerous in the city, and a small club held their daily gatherings in front of my windows on the Corso. In Spain I never saw one about habitations, but only far away in the wooded *cotos*. Black game (*Tetrao tetrix*) and Pheasants were frequently to be seen in the market; but they came by rail from a distance. The Red Partridges in the market were all *Caccabis saxatilis*. *Perdix cinerea* is also brought in, and, even in winter, a few Quails are never wanting.

In the celebrated mosaic from the Baths of Caracalla, a Barbary Partridge (*C. petrosa*) is represented; so that bird was probably considered rare by ancient Romans. Woodcock, Snipe and Jacksnipe, Lapwing, and Golden Plover were abundant; and occasionally a Curlew, Heron, or Bittern made its appearance on the stalls, amongst Bean-Geese (*Anser segetum*), Wigeon, Mallard, Teal, Tufted Duck, Pintail, Pochard, Scaup and Gadwall, brought in from the Pontine marshes. One female Smew and one *Anser erythropus* (Linn.) testified to the hardness of the winter, the most severe experienced in Italy for many years. *Larus ridibundus* and *L. argentatus*, the latter especially abundant on the Tiber, were the only Gulls I observed alive; but *L. minutus* is not uncommon in autumn and spring.

Naples and its Museum of Natural History do not call for any special remark; but at Sorrento I was shown a vilely stuffed specimen shot near the town, of what the owner called "Gran Duca," but it was really a *Bubo ascalaphus*.

At the Island of Capri, where I remained some time, I saw few birds, excepting a pair of Peregrines, Rock-Martins, and Herring-Gulls; but it is a place for Quails on their passage. The boatmen talk of a wonderful little bird, only to be seen on the rocks near the Blue Grotto, which I fancy must be *Tichodroma muraria*, although their description does not tally well with that of the Wall-Creeper.

My next halting-place was Palermo, where there is an excellent Museum, presided over by a most enthusiastic naturalist, Professor Doderlein, who will in a short time make it the richest collection of European birds in Italy. The finest specimens of *Larus gelastes, L. melanocephalus,* and *L. minutus* are to be seen here; and, to my surprise, *L. atricilla* is a regular visitant in winter (*cf. suprà,* p. 255). I confess I was as incredulous as any of my readers can be, until I had carefully examined a series of specimens*. *Larus tridactylus* is found, but very rarely. I learned that *Vultur cinereus* is extremely uncommon in Sicily, though abundant in Sardinia; and indeed, in spite of the similarity in ruggedness and sparse population to Spain, yet raptorial birds appear to be by no means so abundant as in the latter country. Apart from ornithology, I cannot imagine a more delightful winter residence than Palermo, superior in comfort, cheapness, cleanliness, and, I think, in scenery to overrated, foul-smelling Naples. At Messina I called on Chevalier Luigi Benoit, the author of a well-known work on the birds of Sicily; but finding that his collection did not contain any special rarities, and a violent sirocco wind rendering life unendurable, I escaped by the afternoon train to Catania, where one could at least gaze upon Etna and talk of ascending it. It was all talk after all; for the "Casa Inglese" had been broken into by the snow, as we found when we got to Nicolosi; and though Dr. Gemmellaro did his best to send us up, the guides would not go. The abominable wind continued for a week, no vessels coming in or going out; and the Museum, though it contained a few good things, was soon exhausted. Its rarities are *Glaucidium passerinum, Hirundo rufula,* and *H. cahirica,* and of course the Francolin (*Francolinus vulgaris*). At Palermo I was told that this last still existed at Terranova, on the south coast, and nowhere else. Of the first statement I am doubtful; of the second I am pretty sure; for during a month's stay in Sicily I repeatedly offered 50 lire for a *Francolino* in the flesh, without success.

---

* We certainly had no American specimens for comparison, and could only compare the supposed immature birds in winter-plumage with specimens of similar age of *Larus canus, L. gelastes, L. leucophthalmus, L. melanocephalus, L. ridibundus,* and *L. tridactylus,* by the help of the last edition of Degland's 'Ornithologie Européenne.' The birds in question did not belong to any of the species just named.

I was unable to stop at the great marshes of Lentini, about halfway between Catania and Syracuse; but a friend told me that in all his experience he had never come across their equal for Ducks and Snipes. *Porphyrio veterum* and *Fuligula rufina* were hawked about Catania every day; but the latter were all females, and only one much damaged male was brought to me. *Anas boschas*, *Fuligula rufina*, and *F. nyroca* are the three commonest breeding Ducks in Sicily. In the winter the Gadwall and Pochard are as abundant as any. All the above mentioned are also found in the marshes of the Anapo, near Syracuse; and I think that the sportsman and naturalist could not well have better winter quarters than the last most interesting city. There is a fair local museum there, containing, amongst other things, *Syrrhaptes paradoxus* and *Otis houbara*, killed there. The bay was full of Pochards, Divers, Great Crested Grebes, and Gulls, especially *Larus minutus*, *L. melanocephalus*, and *L. ridibundus*. The last, which left on the 3rd or 4th of March, had scarcely a sign of the hood, whereas *L. melanocephalus* had completely assumed the black head. *L. gelastes* I frequently observed on the Sicilian coast.

From Sicily to Malta, where I had the pleasure of seeing Mr. C. W. Wright's collection; and in his company I passed many agreeable hours: but to his ample Catalogue of the Birds of Malta I can add nothing; so I pass at once to Gibraltar, where I arrived on the 17th of March. What a change from the comparatively nonaviferous Italy! As we drove out to the Monkey Battery, Kestrels were hovering along the rocks, Black Chats (*Saxicola cachinnans*) were making love in their own quarrelsome manner, the Blue Thrushes, also pairing, were chasing one another about the rocks; over the sea an unfortunate Osprey was being bullied by a pair of Ravens, whilst near the signal station a Bonelli's Eagle or two might be seen every few minutes. Amongst the trees of the promenade our own common Blackbirds, Thrushes, Redbreasts, and Sparrows enlivened the scene, whilst *Sylvia melanocephala* scolded in every clump of pines, and the "bu-bu" of the Hoopoe still reminded one of the south. A week on the mainland of Italy would not give you so many birds as this two hours' drive.

Of course I was not many hours in Gibraltar before I made my way to the Signal-station, where the sergeant showed me a nest of Bonelli's Eagle, from which the young had been hatched five or six days prior to my visit. Strange to say, about two days after the young were hatched they disappeared from the nest; and as no one could possibly have taken them without the cognizance of the signalmen, it is probable that the old birds had removed them, annoyed by too much inspection. During a week I visited the station every day, having discovered that two more pairs of this Eagle were then making their nests—one in the very crag on which the battery is perched, the other in a projecting buttress of rock to the south. An hour after daybreak generally found me at the station, where for several hours I watched these birds, now dropping down towards Catalan Bay to tear up pieces of scrub for their nests, and now diversifying their labours by a pounce upon some unfortunate rabbit, which was immediately carried off to some neighbouring crag and devoured. The pair whose nest was in full view of the station, used to make an old nest their dining-room. I never saw them take anything but rabbits; and it is probably owing to the extreme abundance of these animals that so many pairs of raptorial birds are found within so short a distance of one another. Such being their quarry, I was of course deprived of the pleasure of seeing them swoop like a Falcon, as described by Lord Lilford (Ibis, 1861, pp. 4, 5); but they certainly used to skim over, and pick up a rabbit, with a graceful gliding flight, unrivalled even by the Goshawk, with which this Eagle seems to have strong affinities.

One morning, when unusually early at my post (I had left home before sunrise), I noticed a pair wheeling round and performing antics in the air similar to those of Ravens; this lasted about half an hour, after which they settled to the work of nest-building; then came a light breakfast on rabbits, after which some half-dozen journeys were made for sticks; then came another rabbit, after which they retired—for a digestive nap, I suppose. But Bonelli's Eagle was not the only attraction of this noble look-out; mingled with Common Swifts, House-Martins, and Swallows were several hundreds of Alpine Swifts

(*Cypselus melba*), and a few pairs of Rock-Martins (*Cotyle rupestris*), whilst everywhere the Blue Thrush attracted attention by its plaintive note. A pair of Egyptian Vultures were evidently contemplating a nest above Catalan Bay, though somewhat deterred by the impudent bullying of a pair of Ravens.

Though naturally anxious to reach Malaga, so as to visit my last year's eyry of *Aquila bonellii* in the Gaitanes mountains (*suprà* p.184), I was unable to get there till the 24th March, when I found a letter saying that my man had discovered this year's nest, and that the female was sitting very hard, scarcely leaving the nest at all. Starting early before daybreak the very next morning, I found myself before midday amongst my old friends in the mountains, and, with Juan, Gabriel, and another brother of the same distinguished family, set off at once for the Eagle's nest, which was situated close to that from which I took the young last year. As I wanted the parent bird, Gabriel (the crack shot of that family of marksmen) drew his charge, and after substituting some of my powder for his own, and carefully loading with a single ball, rejoined Juan, who had gone round with the ropes to the summit of the cliff. With the remaining brother, whose gun was loaded with shot, I clambered to my old post of last year, and there waited for those on the top. At last they came; we stood ready: but it took a good deal of shouting and several clods thrown down before the female would stir; then she darted out like an arrow. Both fired, but she still kept on; then suddenly with a sideward motion of her tail, exactly like a rudder when the lower gudgeon has given way, she fell like a stone into the olive-covered slopes below. When picked up, it was found that Gabriel's ball had passed completely through her back, nearly dividing the vertebra, which had afterwards given way. Juan went down and took the eggs, which are of a bluish white, the one fairly marked with reddish brown, the other almost unspotted: their shape is more oblong than that of any other European Eagle's egg in my collection; and indeed I know none with which I could possibly confuse them. I have seen dealers' eggs ascribed to *A. nævioides* which I have now no doubt are those of *A. bonellii,* as it is one of the commonest rock-breeding Eagles on both sides of the Mediterranean. It was well that I had lost no time; for on putting the extractor in on one side of the best-marked egg, the chick attempted to force its way out on the other, and actually broke the shell; so the extraction cost both time and trouble. The male Eagle was brought in a few days afterwards.

During January and February the winter, even in the mountains, had scarcely been felt; but in March cold set in, and, although I visited Granada, any expedition to the Sierra Nevada was again out of the question. At the beginning of April the trees were but just bursting into leaf, and the only nest I took was one of the Citril-finch in the avenues leading to the Alhambra. On my return to Malaga I paid two more visits to the mountains, where I called upon a colony of Griffon-Vultures, obtaining many eggs and several young birds. Although we never passed a day without seeing at least one *Gypaetus barbatus*, yet my men did not discover its eyry till May 4th, when they took a young one, now in my possession, as are also two down-clad young of *Aquila chrysaetus* taken May 27th, all apparently hatched about the same time, unless the young Gypaetes prove of slower growth than the latter. Two nests of *Saxicola cachinnans*, one of *Petrocincla cyanea*, and two young birds of *Bubo maximus*, with a few eggs of *Neophron percnopterus*, were all I obtained in the mountains this year.

My cazador, Manuel, at Seville, had not been idle; and on my arrival there I sent him down to the Cotos, being prevented from accompanying him, owing to the indisposition of my wife. In the clump of trees where *Aquila heliaca* regularly breeds, but whose nest last year was empty, he found one egg, somewhat incubated; in another nest of the same species, however, he found *four* eggs, which, judging from the family likeness, are all the produce of the same female. On blowing them, one proved considerably incubated; another, having been partially so, had turned bad; and the remaining two were nearly fresh. The usual list of Coto birds and eggs, with a much damaged female *Circus pallidus* and two eggs, and two very black males of *C. cineraceus*, were the fruits of this expedition; and subsequent ones produced little novelty. About this time Lord Lilford arrived in Seville, and took over my Manuel, whilst I proceeded to his former ground at Aranjuez to take up with his Manuel and the faithful Agapo, aforetime mentioned in 'The Ibis' (1866, p. 183). Before leaving Seville I paid a visit to Jerez, and, through the kindness of a friend, became the possessor of several valuable eggs, notably some of *Phœnicopterus roseus*.

On arriving at Aranjuez I found that Manuel de la Torre was away in the Guadarrama collecting eggs of *Vultur cinereus*; but after a few hours Agapo turned up, and we at once went out after Great Spotted Cuckoo (*Oxylophus glandarius*), which is far more abundant here than it is in the Cotos, depositing its eggs as there, in nests of *Pica melanoleuca*. The largest number I ever found in one nest was six; and in one nest four eggs, in others one or two was the number. Although I never actually saw the Cuckoo deposit its egg, yet I saw one fly past me which I feel sure had something like an egg in its gullet; from the side of another nest I saw the Cuckoo go off, leaving a broken Magpie's egg at the foot of the tree, and in the nest an egg of her own wet with yelk. As we came up, her head was in the nest; and she fairly backed out, which she would never have done if it were her habit to lay her egg in the nest as ordinary birds do, in which case her head would have been looking outwards. It seems to me pretty positive proof that the Cuckoo flew to the Magpie's nest with her own egg in her mouth, deposited it there, took out an egg of the Magpie's, crushed it with her bill, and, dropping the fragments outside, returned to arrange her own egg comfortably in the place now vacant. If not, why does it constantly, I may say generally, happen that the Cuckoo's egg is smeared with yelk whilst the remaining Magpie's eggs are as constantly clean? I also noticed that when a Cuckoo was near, the Magpies could hardly be induced to leave their nests, whereas at other times there was no hesitation on their part. Any one who could give a week's attention to this point could easily settle it by the aid of a good binocular glass, as the Magpies' nests are visible from a long distance, and the mode of deposit adopted by the Cuckoo could be easily distinguished.

Although I had already obtained eggs of the Booted Eagle near Seville, it had scarcely begun breeding near Aranjuez; and on the 1st of May I was obliged to continue my journey northwards to Madrid. Here I found Manuel with a splendid series of eggs of Cinereous Vulture; and as he informed me that he had robbed every nest he knew of, it was useless to go up into the Guadarrama this year. He had also taken a nest of Dipper, which he considered a great rarity; but, unfortunately, he had not secured the bird, so I am unable to say whether it is *Cinclus aquaticus* or *C. melanogaster*. I expect some skins in a few weeks from the province of Santander.

During this visit I have quite convinced myself of the existence of *Aquila nævioides* in Spain*, having examined various stuffed specimens; and in the Duc de Montpensier's gardens at Seville there is a magnificent live bird of this species, taken last year from the nest in the woods near Cordova. I was also informed that it came from a brood of four—an assertion I then doubted; but after the example already furnished by the Imperial Eagle, it may be true. My informant added that this species often nested on scrub and tussocks, but a few feet from the ground, after the manner of the Harriers; and considering its affinities with *A. nævia*, and Mr. Hudleston's experience of that bird's breeding-places in the Dobrudscha (Ibis, 1861, p. 368), this is not improbable. In the Madrid Museum is a fine series of this bird; but although Manuel knew it, yet I could not learn that he had ever found it breeding, and I myself have never been able to recognize it in a wild state.

As I am now preparing a list of the birds of Southern Spain, any further remarks would probably result in useless repetition; but before closing this notice I would draw attention to the abundance of birds in that country as compared with Italy; and I refer not merely to abundance of species but of individuals. It would be manifestly unfair to mention the spring and summer visitors to the former, as I have not passed those seasons in Italy; but compare the market of Rome, by far the richest in Italy, with that of Seville, and the deficiency in the former is most striking—all the more so because everything is considered *caccia* by the Italians, and consequently all sorts of uneatable birds come into the market, whereas the Spaniard, who is a somewhat dainty feeder, never shoots anything except for the pot. Yet, although the Spaniard would scorn to stalk a Chaffinch or a Redbreast from bush to bush, the number of Larks, Sparrows, and such like exposed in the markets of Spain is fully tenfold more than is to be found in those of Italy; and yet you see bands of small birds even in the most arid parts of Spain for individuals in Italy. The fertility of the soil must be pretty nearly equal in both countries; and my own idea is that, whereas the greater part of the small birds in Spain are taken by snares (*costillas*) or in nets, the Italian, who is never so happy as when he can let his gun off at anything, however insignificant, scares the birds out of the country by his incessant popping. But, whatever be the reason, even the mere tourist passing through by railway from Irun to Cadiz could hardly help observing that the general complaint of the absence of birds on the Continent by no means applies to Spain, which is, both in species of birds and individuals, one of the richest in Europe.

---

* [See the statements of Mr. Sclater (Ibis, 1863, p. 352; 1865, p. 359) and Lord Lilford (*tom. cit.* p. 172).—Ed.]

XXXVII.—*Additional Notes on various Indian Birds.*

By R. C. Beavan, Bengal Staff Corps, C.M.Z.S.

Having had the opportunity of making further observations on some of the species belonging to the groups included in my former "Notes"[*], and especially in the earliest paper of the series, I think that a knowledge of them may be of use to those interested in Indian ornithology. As before, I follow the arrangement of Dr. Jerdon in his 'Birds of India,' and the numbers prefixed are the same as in that work.

84. **Hirundo filifera.** Wire-tailed Swallow.

I have frequently heard from my late friend Dr. Scott that this Swallow occurs in some abundance about Umballah in certain seasons, and breeds there under culverts and road-bridges in that station; but I myself never observed it there, but did so in the cold weather of 1866, near Morar, Gwalior, when out on a fishing-excursion with my brother. It is a very beautiful species when seen on the wing, flitting up and down the small streams as *H. rustica* does in England.

---

[*] Ibis, 1865, pp. 400-423; 1867, pp. 430-455; 1868, pp. 73-85, 165-181, 370-406; and (*Accipitres*) P. Z. S. 1868, pp. 390-402.

85. HIRUNDO DAURICA. Red-rumped Swallow.

I noticed this species, at Simla about the end of April 1866, now and then about the house, as if in quest of a place to build in; but apparently it does not breed until much later; for I found a nest which was built in the veranda of the dâk bungalow at Fagoo on the 2nd August, 1866. It was then but just finished, and the female had not yet begun to lay her eggs. The nest is like that of *H. rustica,* made of mud, but has a funnel-shaped entrance some four or five inches in length, continued from the top of the nest along the angle caused by the meeting of the wall and the roof. The female keeps inside the nest; and from the continued twittering which she made when visited by the male, I thought at first that the nest contained young; and it was not until I drove her out that I discovered my mistake. I observed this species at Simla up to September 15th, when I noticed that it was almost the only species visible, and still common. A specimen killed on the 18th June at Simla measured:—Length 6·625 in.; wing 4·5; tail (imperfect) 3; tarsus ·5; bill from front ·9375; extent 11·5. Bill black; legs dark reddish brown; claws black.

89. COTYLE SINENSIS. Indian Bank-Martin.

I observed this species in some abundance on the 1st April, 1866, when on the march from Umballah to Kalka, and within some ten or twelve miles of the latter place. They had apparently done breeding at this time of year. The following are the dimensions of two specimens then procured:—

Length.	Wing.	Tail.	Extent.	Tarsus.	Bill from front.
4·25	3·5	1·625	9·5	·4375	·2
4·375	3·7	1·75	10	·4375	·25

The wings exceed the tail by ·25 to ·375 in.; the irides are dark.

98. CYPSELUS MELBA. Alpine Swift.

At Simla, on the 15th September, 1866, my attention was drawn by my friend Colonel Gott to a large flight of these elegant birds, which were sporting about, at some height in the air, over the station. This was my first acquaintance with this species, of which, however, Col. Tytler has in his collection specimens from this vicinity, noticed in his late paper (Ibis, 1868, p. 195), where he also mentions *Cypselus leuconyx* and *Acanthylis caudacuta,* which are two species that did not occur to me when at Simla in 1866, though the former may have done so; for I have a note that at Simla, on the 27th April, I observed a pair of Swifts which were all black, with only a white rump. At the time I ascribed them to

100. Cypselus affinis. Common Indian Swift.

But it is possible, as I did not procure specimens, that they may have been *C. leuconyx* (Jerdon, B. Ind. i. p. 179). I may, however, here remark of *C. affinis,* that Col. Tytler procured specimens of this species, which I saw at Simla in 1866, from Mount Jacko in that station; and I see that he notes this species in his recent paper (*loc. cit.*).

104. Dendrochelidon coronata. Indian Crested Swift.

This species is that mentioned by Col. Tickell as no. 54 in his paper on the birds of Borabhum (J. A. S. B. ii. p. 580). My friend Mr. Sinclair, of the Bengal Revenue Survey, observed it plentifully about Maunbazar, in Maunbhoom, in February 1865.

109. Caprimulgus albonotatus. Large Bengal Night-jar.

My dog caught a specimen on the ground on the 27th February, 1865. Its wing was 7·125, length to the end of wing 9 inches. The tail was pulled out by the dog. Dr. Jerdon's description of this species is very meagre, not mentioning the colour of the breast or underparts, or the white stripe, which extends for ·75 in. on each side from the base of the bill, until it meets the white neck-patch. I venture to supply the deficiency. The abdomen and under wing-coverts are transversely barred with rufous and black. A semicollar of rufous and black feathers, tipped with white, extends below the white neck-patch, and below this the breast is of a beautiful mottled ashy-rufous hue. The rictal bristles, with the bases of a pure white colour, form a prominent feature in this bird. The primaries are handsomely mottled at their extremities.

I presented the eggs of this species to the Zoological Society of London (P. Z. S. 1864, p. 375), as well as those of two other species, *C. asiaticus* and *C. monticolus*, all of which I procured *not* at Barrackpore, as there stated, but in the Maunbhoom district.

110. Caprimulgus macrurus. Malay Night-jar.

A Night-jar killed by me at Moulmein on 23rd October, 1865, agrees tolerably well with Dr. Jerdon's description of this species, but has no white bars on the wings, and is perhaps therefore a female. The primaries are mottled at their tips. Length 11·75, wing 7·75, tail 6·5, tarsus ·625, extent 20, bill from front ·375 in. Dr. Jerdon says of this species (apparently as a distinction from *C. albonotatus*) that the whiskers are white at their base; but, as I have above mentioned, this feature is not a distinctive character.

112. Caprimulgus asiaticus*. Common Indian Night-jar.

On October 27th, 1865, a specimen of this species flew on board the steamer in which I then was, within sight of land, between Moulmein and Rangoon, in the middle of the day, together with a *Turtur cambayensis*; both birds left the vessel again after resting for a short time on the shrouds. It is commonly called the "Ice-bird" in India.

114. Caprimulgus monticolus. Franklin's Night-jar.

A specimen procured by me on March 9th, 1865, measured:—length 10·25; wing 8, tail barely 5, tarsus ·875, extent 23·25 in.

115. Harpactes fasciatus. Malabar Trogon.

This is noted by Col. Tickell as *Trogon duvaucelii* in his paper on the birds of Borabhum and Dhulbhum (J. A. S. B. ii. p. 580). He there says of it:—"The solitary specimen seen was killed near Dampára Dholbhúm. It frequents the thickest jungle at the bottom of ravines and dried rocky nalas, flying from tree to tree, with a wild querulous note like the mewing of a cat. It pursues and catches insects on the wing, like the *Muscicapæ*: the stomach of the present specimen was crammed with them."

---

* In Dr. Jerdon's description of this species (B. Ind. i. p. 197), after the words "the outermost feathers," in line 11 from the top, ought to be inserted the words "of the tail."

Harpactes orescius*.

I procured this handsome Trogon in Burmah, on Korkarit Island, in the middle of the river Salween, on the 17th August 1865. Its dimensions were as follows:—Length 11, wing 4·625, tail 6·75, tarsus ·5, bill from front ·625, extent 13 inches. The bill and skin of the eyes and feet were bright blue in colour. The head, throat and neck a greenish-yellow, extending to halfway down the breast, where it is met by orange-yellow, which latter merges into bright yellow on the belly and under tail-coverts. The back and upper tail-coverts are of a rufous-maroon. The wings are banded with black and white; the tail is black, with its outer feathers tipped with white, and some of them white for a considerable distance along their length. This beautiful Trogon lives in the thick forest jungle, where there is but little underwood and progression is easy for the naturalist, and is found in flocks or small parties of eight or ten. Each bird seems, however, to forage entirely "on his own hook"; it suddenly darts out from the tree it may be seated on, seizes an insect, and, after devouring it on a branch, sits there so very silently and quietly that it is next to impossible to see it. They are not shy; but the colour of their plumage assimilates so closely to that of the surrounding foliage that observation is very difficult in consequence. The female resembles the male in plumage, but is altogether more dully coloured. Having previously expended all my shot, I killed one with a bullet; but it was too much knocked about to preserve.

117. Merops viridis. Common Indian Bee-eater.

Occurs about Moulmein during the whole of the rainy season; but although residing there from July 2nd to October, 1865, I did not observe it breeding there. I mention this with reference to Dr. Jerdon's statement that "Mr. Blyth observed them breeding near Moulmein as late as the middle of August."

122. Nyctiornis athertoni. Blue-necked Beetle-eater.

I procured my first specimen of this handsome bird at Moulmein on the 21st September, 1865, in Col. Brown's garden, in the evening. It was seated on the dead bough of a tree which overhung the tank, from which it sallied forth every few minutes, like the ordinary Bee-eater, and returned to its perch with an insect. At first I mistook it for a species of *Dicrurus,* as its green plumage looked dark in the absence of sunlight. It allowed me to approach within easy shot, without seeming at all annoyed by my presence. The measurements of my specimen differ considerably from those given by Dr. Jerdon:—Length 13·125, wing 5·125, tail barely 5, tarsus ·5, bill from front 1·75, tail beyond wing 3·5 in.,—giving a difference of ·875 in. in the whole length, and of ·375 in. in the wing, which is a good deal.

---

* *Cf.* Lord Walden's paper on birds collected by me in the Tenasserim provinces of Burmah (P. Z. S. 1866, pp. 537–556).

N. amicta, although said by Dr. Jerdon (B. Ind. i. p. 212) to inhabit Burmah, did not, however, occur to me in that country. I fancy it will in all probability be found somewhere to the south of Moulmein.

124. CORACIAS AFFINIS. Burmese Roller.

Tolerably common about Moulmein, but very wary and difficult to approach. I however managed to get a specimen at Tonquine on the 23rd September, 1865, of which I subjoin the dimensions:—Length 13·25, wing 7·375, tail 5·125, tarsus barely 1, bill 1·375 in. Legs dirty yellow, claws black, irides brown, bill black.

127. HALCYON LEUCOCEPHALUS*. Brown-headed Kingfisher.

Dr. Jerdon says of this species that the legs are "dull scarlet;" but in specimens procured by me at the Andamans, in June 1865, they were of a bright coral-red colour (*cf.* Ibis, 1865, pp. 407, 408); and the lower mandible of the bill is of the same colour, but rather darker towards the tip.

129. HALCYON FUSCUS. White-breasted Kingfisher.

Procured by me from Mount Harriet, on the Andaman Islands, on June 19, 1865 (Ibis, 1867, p. 319); again on the Thatong Creek, in the Martaban district of Burmah, on the 4th October in the same year; and again at Solon, on the cart-road to the plains, about thirty miles from Simla, in the N.W. Himalayas, at an elevation of from 4000 to 5000 feet. The last I shot from a tree overhanging a tank in the middle of the village, on the 18th October, 1866.

---

* *Cf.* Lord Walden's paper on my Tenasserim birds (P. Z. S. 1866, pp. 537–556).

130. Halcyon atricapillus. Black-capped Purple Kingfisher.

I found this species tolerably abundant about the tidal creeks and rivers at Moulmein in 1865. A specimen, a male by dissection, was procured by me there in very fine and perfect plumage, on the 14th of September in that year. Its dimensions were as follows:—Length barely 12, wing 5, tail 3·25, exceeding the wing, when closed, by 2·25; tarsus ·5625, bill from front 2·375 in. Irides dark brown; bill and legs coral-red, the latter with a darker tinge above; the claws brown-black. The breast-feathers in this specimen have slight dark fringes or pencillings on them; the throat is a pure white, which is met below by a rufous semicollar. This latter colour meets on the abdomen, and extends thence throughout the lower parts to the lower tail-coverts. I shot this specimen in Col. Brown's garden at Moulmein.

132. Todirhamphus collaris. White-collared Kingfisher.

In a former notice of this species (Ibis, 1867, p. 319) a slight mistake occurs; the bill should have been said to be 1·625 in. in length, instead of 1·52.

134. Alcedo bengalensis. Common Indian Kingfisher.

I procured a single specimen in November 1866, at Umballah, where, however, it is far from common.

140. Homraius bicornis. Great Hornbill.

Col. Brown had one about two-thirds grown, in captivity, at Moulmein, in July 1865. It lived chiefly on plantains, which it ate voraciously, catching them when thrown into the air, and then with a gulp swallowing them down. It made a horrid loud noise when hungry, the voice sounding like the "hough! hough!" of a troop of monkeys when they see an enemy in the jungles. The Burmese call this species "*Oukchingèe*" (Big Hornbill), and sometimes also "*Yonia.*" I observed several specimens in the forest which covers Horkarit Island in the river Salween, in August, 1865.

142. HYDROCISSA ALBIROSTRIS. Bengal Pied Hornbill.

I observed this species in Maunbhoom as especially abundant near Ambekanuggur, and in Burmah still more so, along the banks of the river Salween. In the latter situation I generally observed them in small parties of six or eight. They made a tremendous noise in the jungles. "*Ouk-chin*" is the Burmese name, although sometimes called "*Ouk-chin-ge-lay*" (Little Hornbill) in contradistinction to the preceding species.

144. MENICEROS BICORNIS. Common Grey Hornbill.

At Umballah on 16th November, 1866, I procured a specimen, the dimensions of which exceed those given by Dr. Jerdon. They are as follows:—Length 23·25 in., wing (not stretched out at all) 8·5 in., tail 12·5, tarsus 1·7, spread of foot underneath 3·25, bill from front 3·75, from gape 3·875, extent about 29 in., the last measurement being the only one wherein Dr. Jerdon's dimensions exceed mine, which were taken from the bird in the flesh.

147. PALÆORNIS ALEXANDRI. Alexandrine Parrakeet.

Noticed by the late Dr. Scott as abundant at Umballah in August, 1867, but a merely temporary visitor at that station, and apparently arriving there just after the young birds of the year are flown. Most specimens are then in bad plumage. In what part of India does this species breed? I never observed it doing so in the Maunbhoom district.

148. PALÆORNIS TORQUATA. Rose-ringed Parrakeet.

This species is excessively abundant about gardens at Umballah in the cold weather, and in March I saw one or two pairs breeding there in holes of trees. They are a great nuisance when close to a house, as their harsh shriek is peculiarly disagreeable when uttered every few seconds. Their eggs were hatched about the 25th March, and one of them measured 1 inch by 1·28 in. At Barrackpore in 1864 this species was still pretty common up to 2nd September.

149. Palæornis rosa. Rose-headed Parrakeet.

In Burmah, on the 18th September, 1865, I noticed a large Parrakeet (which, however, might perhaps have been *P. alexandri*) common in flocks, with a loud and melancholy cry. It roosted on the islands in the Salween and Gyne rivers, near Moulmein. However, as I could not procure a specimen, I am not certain. On the 11th October, I shot one of a pair of Parrakeets which I observed on the top of a high cassia tree in Col. Brown's garden, which I referred at the time to *P. schisticeps*; but Dr. Jerdon on seeing my description said it was most likely to have been *P. rosa*.

This specimen, by dissection a male, measured as follows:—length 12, wing 5·25, tail 6·5, tarsus ·4375, bill from front ·625, extent 15 inches. Dr. Jerdon, in his description of *P. schisticeps* (B. Ind. i. p. 261), says that the tip of the bill and the lower mandible are yellow—a statement apparently quoted from Horsfield (Cat. B. Mus. E. I. Co. p. 615). In my specimen the lower mandible is of a dark slate-colour, and the tip of the upper mandible barely darker than the rest, which is yellow, darkest near the base of the bill. The measurements of my specimen do not agree well with those given by Dr. Jerdon for either species; nor does he mention Burmah as a habitat of *P. schisticeps*, although it is included by Dr. Mason ('Burmah,' &c., 8vo, Rangoon: 1860, p. 179), who speaks of it as a "Parrakeet common in Nepaul, where it was found and described by Mr. Hodgson. It was supposed to be confined to the 'Sub-Himalayan region exclusively,' but it was recently shot in Pegu by Major Phayre." I was inclined before dissection to think that my specimen was possibly a female of *P. rosa*; but the sex being male, and the fact that its mate (there were only a pair), seen through a powerful glass, had the same coloured head as this, made me consider that it belonged to the true *P. schisticeps*.

150. Palæornis schisticeps. Slaty-headed Parrakeet.

Specimens in the flesh from Simla measure as follows:—

	Length.	Wing.	Tail.	Tarsus.	Bill from gape.	Extent.
Adult	17	6·5	10·75	·625	·75	18·5
Young	12·25	6·125	6·25	·625	·75	17
	12·25	5·875	6	·625	·6875	16·5

In the adult the head is dark slate-colour, quite different in hue from that of the female of *P. rosa,* which has it of a very much lighter colour. The black edging to the lavender-colour on the nape is very narrow—a mere line, in fact; and next to it is a patch of bright verditer-green, which gradually blends with the ordinary green of the back. At the base of the primaries is a bright yellow spot, brighter in some specimens than in others. The bill is as described by Dr. Jerdon, except that the upper mandible is conspicuously coral-red tipped with yellow, the legs and claws being of a dirty light yellowish-green.

The preserved young, killed 2nd June, 1866, have merely a trace of the slate-colour on the head, mixed with the otherwise green feathers, no wing-spot, and the yellow below the tail of a much duller hue. The blue and yellow on the tail above are very slight.

153. LORICULUS VERNALIS. Indian Lorikeet.

I procured specimens of this pretty little bird on the banks of the river Salween, in Burmah, on the 18th August, 1865, and noticed that the irides are white in some examples, and light-brown in others—probably young birds; the bill in all was orange; the legs yellow. Specimens in the flesh measured, length 5·25 to 5·5, wing 3·375 to 3·5, tail 1·375 to 1·5, extent 9·75 to 10·25, bill from front nearly ·5 in.

154. PICUS HIMALAYANUS. Himalayan Pied Woodpecker.

I give the measurements of a male and female—the former killed by myself at Mahasoo, near Simla, on the 2nd October, 1866, and the latter by Col. Tytler at Simla, 21st June.

	Length.	Wing.	Tail.	Tarsus.	Bill from front.	Spread foot.	Extent.
♂.	9·25	5	3·45	·875	1·1875	1·875	14·75
♀.	9·25	5	3·625	·75	1·25	1·75	13·75

The irides in both sexes are of a reddish-brown colour, the bill is dark slate- or lead-colour in the female, the legs dark dirty-green, with lead-coloured claws. The species is not very abundant about Simla.

159. PICUS BRUNNEIFRONS. Brown-fronted Woodpecker.

This species on the contrary is the most abundant of its genus at Simla and in its immediate neighbourhood. I procured a pair there on 11th April, 1866, and a second female a month later, of which I subjoin the dimensions.

	Length.	Wing.	Tail.	Tarsus.	Bill from front.	Extent.	Spread foot.
♂.	8·125	4·5	3	·75	1	13·8	1·625*
♀.	7·625	4·25	3	·6875	·875	13	1·375
♀.	7·625	4·375	2·875	·6875	·875	12·5	..

The irides in both sexes are reddish brown. The middle tail-feathers exceed the rest by ·5, ·25, and ·625 respectively.

A species of Woodpecker, procured by me in Burmah at Schway-goon, on the banks of the river Salween, on the 8th August, 1866, is referable either to *Picus atratus*, Blyth, or *Yungipicus canicapillus*, Blyth (*cf.* J. A. S. B. xviii. p. 803), probably the latter, as the whole length of the former is in the place referred to given as 8 inches? The dimensions of my specimen are as follows:—Length 5, wing 3, tail 1·5, tarsus ·5, extent 9, bill from front ·625 in. The head is ash-coloured, the neck black with a few crimson feathers, a white elongated patch behind the eye, ear-coverts hair-brown, back banded with white and black, irides reddish-brown, wing black with white spots, five on each quill, lower back and rump white with rather confused black bars; the breast is hair-brown with elongated black centres to the feathers, which are also of a peculiar hair-like texture, tail brownish, obscurely barred, bill horn-coloured, legs greenish.

What, may I here ask, is the *Yungipicus moluccensis* from Malacca and Java, mentioned by Dr. Jerdon (B. Ind. i. p. 279)? is it the *Picus malaccensis* of Latham, described anew by Mr. Blyth (J. A. S. B. xiv. p. 192)?

166. CHRYSOCOLAPTES SULTANEUS. Golden-backed Woodpecker.

Dr. Jerdon gives the length of this species as about 2½ inches, meaning probably 12½. I am nearly sure that I procured this fine species in the valley of the Great Rungeet River, near Darjeeling, in 1860-61; but, as I made no notes, I have no positive proof to support my supposition.

---

* Dr. Jerdon gives the spread of the foot as 2¾ inches; but that is evidently meant, I should imagine, for 1¾.

170. GECINUS SQUAMATUS. Scaly-bellied Green Woodpecker.

This species was abundant about Simla in April 1866, and the plaintive call "tee-ah-tee" of the male was repeatedly heard throughout the pine-woods. I procured specimens of both sexes, of which I subjoin the dimensions:—

	Length.	Wing.	Tail.	Tarsus.	Bill from front.	Extent.
April 11, ♂.	14	6·25	5·25	1·125	1·75	17·5
May 10, ♀.	13·5	6·25	5	1·0625	1·75	18·5

The irides in both sexes are the same—a circle of dark pinkish-red round the black pupil, surrounded by a second ring of light pink. The bill has the upper mandible horn-coloured at the base, the tip and the whole of the lower mandible being of a brightish yellow. I did not observe the black line on each side of the chin and throat mentioned by Dr. Jerdon; the cheek-stripe in the male was of a mixed black and white; the upper tail-coverts in the same bird are of bright glistening greenish-yellow, and the end of the crest, where it meets the green of the neck, is slightly tipped with yellow.

On the 10th May I found the nest of this species with young ones; it was a round hole in the trunk of the common Simla cedar (*Cedrus deodara*), apparently dug out by the bird itself, and too small to admit even the small hand of a native boy, so that I was unable to get a sight of the young.

GECINUS VIRIDANUS, Blyth, was procured by me at the foot of Zwagaben, a limestone hill, described by me in a letter to the Zoological Society (P. Z. S. 1866, p. 2). Length 12·5, wing 5·5, tail 4·75, tarsus 1, bill from front 1·5, extent 16 in. Irides dark purple, bill dark horn-colour above, greenish-yellow beneath, excepting the tip, which is (as usual in this genus) darker; the legs and claws are of a dull greenish-yellow colour (*cf.* P. Z. S. 1866, pp. 537–556).

173. CHRYSOPHLEGMA FLAVINUCHA. Large Yellow-naped Woodpecker.

The late Dr. Scott noted this species from Nepaul, and appears to have received it from his great friend Dr. Wright, who used to collect birds for him there—to the best of my knowledge, in the neighbourhood of Katmandhu.

180. Brachypternus aurantius. Golden-backed Woodpecker.

Besides the localities before mentioned by me (Ibis, 1865, p. 411), this species was also procured by me at Ambekanuggur, in the Maunbhoom district of the Chota Nagpore division, in 1865.

184. Chrysonotus intermedius. Common Three-toed Woodpecker.

A specimen of this species was killed by me at Kulwee, near Moulmein, in the Tennasserim provinces of Burmah, on a wild mango tree on the 7th September, 1865. Its dimensions in the flesh were as follows:—Length 11·25, wing 5·5, tarsus ·8125, bill from front 1·25, expanse 14, tail 3·625, hind toe 1. Irides a dark reddish-brown. This specimen does not appear to differ, except in its dimensions, from Dr. Jerdon's description of *C. shorii* (B. Ind. i. p. 298).

186. Vivia innominata. Speckled Piculet.

Dr. Jerdon says that this species is found throughout the Himalayas, and "in no other locality that I am aware of." But an observation of Mr. Blyth (J. A. S. B. 1859, p. 416) shows that it also occurs in Burmah. I procured a specimen at Simla on the 3rd July, 1866, which is now, I believe, in Col. Tytler's collection. The dimensions of the bird in the flesh were as follows:—Length 4·125, wing 2·25, tail 1·25, tarsus ·4375, spread of foot 1·0625, bill from front 1·4375, from gape ·5, extent 7 inches. Legs light blue; bill bluish lead-colour; irides apparently brown. The tongue of this species, as Dr. Jerdon remarks, is like that of a Woodpecker, having several barbs along the extremity, resembling in this respect many of the arrows manufactured by savage nations, who doubtless conceived their first idea of such a weapon by being struck by the form of a Woodpecker's tongue; at least such is my opinion.

191. Megalæma virens. Great Barbet.

Several specimens of this gaily plumaged bird were procured by me at Simla in 1866. The first specimen, killed on the 8th May, had the bill orange-yellow at the base, the rest being of a light greenish-yellow, and the terminal ·875 in. of the upper mandible of a purplish-blue. The irides are dark brown, the legs a light plumbeous-green, with lead-coloured claws, and the soles of the feet a dirty yellow—in some dirty white, with bluish-horny claws; but of course these soft colours are not likely to appear exactly the same in every individual killed, since they begin to fade so soon after death; hence the discrepancy. The dimensions are as follows:—

	Length.	Wing.	Tail.	Tarsus.	Bill from front.	Extent.
May 8th.	13·25	5·9	4	1·125	1·5	18
July 1st.	12·5	5·5	3·875	1·25	1·375	16·75

the height of the bill at the base in the latter specimen being ·5625 in. Dr. Jerdon's description of the call of this species is very good.

197. XANTHOLÆMA INDICA. Crimson-breasted Barbet.

The dimensions of a specimen procured at Moulmein in September 1865, agree fairly with those recorded (Ibis, 1865, p. 412*) from Maunbhoom. Length 6·625, wing 3·375, tail 1·75, tarsus ·75, extent 10·5 in. In December 1864, as I was passing through a tope or grove of mango-trees in Maunbhoom, I heard a loud "tap-tap" in one of the trees, as if a Woodpecker was hard at work. Being anxious to secure it, if possible, I tried in vain for some time to discover its whereabouts, but at last spied the author of the noise, clinging to the underside of a middle-sized bough, and pecking at the wood. I shot it in the act, and it turned out to be a bird of this species. The fact of the Barbets tapping wood with their beak is doubted by Dr. Jerdon†; but in this case there can be no question about the matter. Its stomach, however, on examination contained only fruit and seeds; but there was nothing to be found in its crop, so that it evidently was not feeding at the time I killed it.

200. CUCULUS HIMALAYANUS. Himalayan Cuckoo.

The following is a description of a specimen procured at Simla on July 1st, 1866, and regarded by Col. Tytler as the young of this species:—Very dark, almost black, banded with white on the head, nape, breast, thighs, and under tail-coverts; less white on the throat and upper breast; back, wings, upper tail-coverts, and tail banded with rufous, but most of the feathers have white edges; bill black; gape orange; orbital skin, legs, and claws light-yellow; the orbits appear to have been originally of a pinkish-brown colour; the nostrils are peculiar—circular, and raised as a kind of rim with a little detached yellow spot inside, which is also raised. Length of this specimen in the flesh 11·125, wing 6·5, tail 5·45, tarsus ·75, spread of foot underneath, including the two outer toes, 1·875, bill from front ·6875, bill from gape 1·0625, extent 17·5 in. In my opinion this was certainly not a nestling, but it may have been a bird of the year before its first moult.

---

* The native name of this bird is "Phoonk-bussunt," from *phoonkna*, to sound, and *bussunt*, an old woman (*fide* Jerdon, B. Ind. i. p. 313),—not "Phoouk bussunt."

† The Doctor, however (*tom. cit.* p. 307), says that he believes "they excavate holes [in trees] for themselves, though this has been doubted;" if so, the process would probably necessitate some tapping.

205. Hierococcyx varius. Common Hawk-Cuckoo.

At Barrackpore, on the 27th September, 1864, I fired at what I thought was a Hawk, and killed it on the wing. It turned out to be only a fine specimen of this species. All the small birds in the vicinity seemed quite scared at its presence. Dr. Jerdon also says that small birds often mistake this species for the Shikra (*Micronisus badius*), and pursue it under that impression.

207. Hierococcyx sparverioides. Large Hawk-Cuckoo?

A fine specimen, procured at Simla in 1866, was considered by me to belong to this species, though Col. Tytler referred it to *Cuculus himalayanus*. Notwithstanding that it does not agree at all well with Dr. Jerdon's measurements of *H. sparverioides*, being, except in the length of the wing, a considerably smaller bird, I cannot help thinking that Col. Tytler was mistaken in his identification of this bird. Length 14·25, wing 9·0625, tail (slightly abraded) 6·75, tarsus ·875, spread of foot underneath 1·5, bill from front 1, bill from gape 1·25, extent 24 inches. The irides, fleshy orbits, and gape are orange-yellow; upper mandible black; the lower yellow at its base, then green, and the tip black; the legs are of a lighter orange-yellow than the gape. The dimensions seem to agree best with those of *C.*

varius; but this is apparently not found in the hills. Perhaps it is *C. striatus* of Drapiez? (Jerd. no. 204); but Mr. Blyth (Ibis, 1866, p. 359) makes this the same as *C. himalayanus* (Jerd. no. 200).

209. POLYPHASIA TENUIROSTRIS. Rufous-bellied Cuckoo.

The specimen before mentioned by me (Ibis, 1865, p. 413) as killed at Barrackpore was shot there in September, not October. Its stomach was filled with caterpillars and other soft insects. The feet were of a light yellow, inclined to greenish above; the claws sharp and black; the upper mandible and the tip of the lower was brownish-black, the gape and the rest of the lower mandible of a reddish-brown colour. This example was probably peculiar in its markings, the primary coverts of the wings being white; its length was 9·25. The dimensions of another specimen, shot at Moulmein on the 28th August, 1865, were as follows:—Length 8·875, wing 4·25, tarsus ·625, bill from front ·625, extent 11 inches. Irides of a dull or brown-red colour, the legs yellow, with a greenish tinge on their upper parts.

212. COCCYSTES MELANOLEUCUS. Pied Crested Cuckoo.

Three specimens were brought to me by my native shikarry, at Simla, in July 1866. I notice this fact because Dr. Jerdon does not record this species from the Himalayas.

215. ZANCLOSTOMUS TRISTIS. Large Green-billed Melkoha.

A specimen of this bird was procured by me at Tongwine, a small village near Moulmein, on the 23rd of September, 1865. Its dimensions in the flesh were as follows:—Length 22·375 in., wing 6·25 in., tail (rather abraded) ·15 in., tarsus 1·375 in., bill from front 1·25 in. The irides were dark brown; the colour of the soft parts as described by Dr. Jerdon.

220. TACCOCUA SIRKEE. Bengal Sirkeer.

This species was apparently procured by the late Dr. Scott, at Umballah, as it is included in the list of the birds sent thence by him to the Montrose Museum.

223. ARACHNOTHERA MAGNA. Large Spider-hunter.

A specimen of this species in fine plumage was procured by me on the 14th of August, 1865, at Kyodan, on the Salween river, more than a hundred miles above Moulmein; I shot it in the act of feeding (probably on insects) in the inside of the large flower of a plantain (*Musa*, sp.?). Its dimensions were as follows:—Length 7·5, wing 3·5, tarsus ·75, tail 1·95, bill from front 1·7, extent 10·5 in. The irides were dark brown, the bill black, and the legs bright orange-yellow, the general colour being a dark green, with the feathers centred with black.

225. ÆTHOPYGA MILES. Himalayan Red Honey-sucker.

I procured a fine specimen of this beautiful bird at Moulmein on the 1st of September, 1865. It measured as follows:—Length 4·875, wing 2·125, tail 1·75, tarsus ·5, bill from front ·75, extent 6·25 in. Tail not fully developed; and none of the feathers in it are scarlet. This species frequents flowering trees, especially the *Amherstia*—and also low bushes and annuals near the ground, when in flower. On the 22nd of September, 1865, I obtained a specimen at Moulmein, on *Costus argyrophyllus*, a common weed there; I also observed it on my trip up the river Salween, in villages, feeding on the flowers of the cocoa-nut palm; its note is a loud piping. The yellow striæ on the breast occur in this species as well as in the next to be mentioned; they are formed by the base of the scarlet feathers being tinged with yellow in a lanceolate shape.

227. ÆTHOPYGA GOULDIÆ. Purple-tailed Red Honey-sucker.

A specimen of this beautiful bird was sent to me at Simla, by Capt. Begbie, who shot it near Kotgurh, some fifty miles in the interior, on the great Hindostan and Thibet road, but, I fancy, low down at that place, in the valley of the Sutledge river; for I do not think that this species frequents high elevations, although sometimes in the summer found at Simla, where I killed a male on the 12th of August, 1866. It was in my garden, feeding on the flowers of *Hibiscus*. Length 5·875, wing 2·25, tail 2·875, tarsus ·5, spread of foot underneath ·8125, bill from front ·5625, from gape ·6875, extent 6·5 in. Irides brown; bill and legs dark brown, the former being almost black. The yellow on the breast has a few scarlet marks; and the purple so-called "shoulder-tuft" is not on the shoulder of the wing, as hinted by its name, but above it, on the lower portion of the neck.

Nectarinia flammaxillaris, Blyth.

A specimen, apparently a young male, of this species was procured by me at Moulmein, on July 10th, 1865. Tail black, the two outer feathers on each side tipped with white, the second on the inner web only; the back and rump dark olive-green, wings darker, a faint yellow streak over the eye, orange spot on axillaries, throat bluish purple, with a yellow edging extending from the base of the lower mandible; breast, belly and under tail-coverts bright yellow; irides dark brown; bill, legs and claws black. Feeds on flowers, seen alone or in pairs. A specimen, probably an adult male, killed at Moulmein, on September 14th, 1865, has the following dimensions:—Length 4·5, wing 2·125, tail 1·45, tarsus ·5, bill from front ·6875, extent 6·25 in. It has a distinct semicircle of dull brick-red on the breast, below the steel-blue throat; below it, again, there are a few black feathers; the belly and under tail-coverts are bright yellow. The tail has its two middle feathers black, and the outer three on each side tipped with white decreasing inwardly. Irides reddish-brown, feet and legs black. The female of this species is of a pale olive-green colour, with a yellow breast, and wants the purple throat of the male.

Nectarinia hasselti (Temm.).

A fine specimen of the male of this bird, which is apparently rather rare at Moulmein, was procured by me at Moulmein, in Col. Brown's garden there, on the 30th of August, 1865:—Length 3·87, wing nearly 2, tarsus ·4375, tail 1·25, bill from front ·5, extent 5 in. Irides dark-brown; bill and legs black. The head and nape are bright metallic golden-green; upper back black, the upper wing coverts, middle of back and upper tail-coverts bright glistening purple, with green and blue reflections; the outer webs of the tail-coverts are of the same colour; from the nostril through the ear-coverts to the upper back the colour is black, the neck and throat being of a brilliant amethystine with purple reflections; the breast and upper belly are dark maroon-red, the lower belly, under tail-coverts and thighs dull brown; wings dark brown; tail underneath black. Its note is a low piping call.

234. Arachnechthra asiatica. Purple Honey-sucker.

The following are the dimensions taken of two females in their ashy-grey or breeding-plumage, killed in Maunbhoom on the 27th of March, 1865, with their nests:—

Length.	Wing.	Tail.	Tarsus.	Bill from front.
4	2·125	1·25	·5	·75
4·25	2·125	1·375	·5	·75

They had black bills, and legs nearly of the same colour, but with a bluish tinge; and there was no white on the throat; so that at first I thought that they were females of *Leptocoma zeylonica* (Jerd. no. 232); but after a careful comparison I assigned them to this species.

Some specimens shot at Umballah, October 31st, 1866, where the species is abundant, were in the plumage of the *Cinnyris currucaria*, Sykes, which I am not aware that I observed before in Maunbhoom. In it there is no trace of an axillary streak. The wings, tail, and ventral stripe are glossy purple, which appears to be all that is left of the breeding-plumage of the male. I noticed the species breeding in gardens at Umballah—I think, in February 1865.

236. Dicæum coccineum. Scarlet-backed Flower-pecker.

Moulmein seems to be the head quarters of this species; for I found it abundant there in 1865, and in July and August I procured several. Of three of these I subjoin the measurements in the flesh. It is very difficult to obtain good specimens of this species, as it is almost impossible to see it, among the foliage of the thick trees it frequents, without the aid of glasses. When starting in flight it utters a quick chuckling call, something like the ticking of a clock, but of course not so regular, and at times repeated more quickly. The ordinary note is "tee-tee-tee."

	Length.	Wing.	Tail.	Tarsus.	Bill from front.	Extent.
♂....	3·625	1·95	1·125	·5	·4375	5·5
♂....	3·5	1·95	1	·5	·4375	5·5
♀....	3·5	1·75	·875	·375	375	5·5

In both the males the side of the neck is brownish; and they also have some black hairs on the head mixed with the scarlet feathers. The tail and wings are glossy steel-blue.

237. Dicæum chrysorrhœum. Yellow-vented Flower-pecker.

I believe that it is to this species, that a Flower-pecker procured by me at Moulmein, in August 1865, ought to be referred, as Dr. Jerdon saw it at the same place. I subjoin the dimensions:—Length 3·625, wing 1·875, tarsus ·45, bill from front ·4375, extent 5·75 in. The bill is large and strong, with the upper mandible considerably curved, rather flat above near the nostrils, which are large. The upper mandible is pinkish-brown; and the tip of the lower is the same, shading underneath into yellow. The irides are dark brown, legs lead-colour.

Dr. Jerdon's description of this species is very scanty, and hardly sufficient for true identification.

Dicæum trigonostigma (Scop.)?

A specimen shot at Moulmein, September 18th, 1865 (*cf.* P. Z. S. 1866, p. 545), belongs either to this species or to the preceding. The following are its dimensions:—Length 3·3125, wing 1·875, tail ·9375, tarsus barely ·5, bill from front ·4375, extent 5·75 in. Irides dark brown; bill dark brown; gape and under mandible orange, excepting its tip, which is dark brown orange; legs plumbeous. Head and back ashy-green; wings ashy, with green edgings; quills brown, with ashy edgings; rump orange-yellow; upper tail-coverts dark green; tail dark brown, the feathers edged with dark bluish-green; a tinge of yellow under the lower mandible; throat ashy; abdomen and under tail-coverts bright yellow, with a tinge of green under the wings; under wing-coverts pure white.

241. Myzanthe ignipectus. Fire-breasted Flower-pecker.

I observed this species in small parties, about the hill-roads at Darjeeling, where I collected specimens in 1862. Skins were sent to me at Simla, in June 1866, by Capt. Begbie, from Kotgurh. This is apparently the first time that this species has been noticed from the north-western Himalayas. On the 5th of July in that year a specimen was brought to me in the flesh by my native shikarry, on which I made the following notes:—Length 3·625, wing 1·875, tail 1, tarsus barely ·5, spread of foot underneath ·8125, bill from front ·37, from gape 38, extent 5.75 in. Irides apparently dark brown; bill and legs jet-black; a glossy-green line extends along the middle of breast and abdomen, from the vermilion breast-patch to near the vent. I fail in seeing the propriety of separating this species from *Dicæum,* and making it into a new genus, as has been done by Mr. Hodgson. Following the arrangement of Dr. Jerdon, it ought, in my opinion, to be placed next to *Dicæum coccineum,* and certainly before *Piprisoma.*

243. CERTHIA HIMALAYANA. Himalayan Tree-creeper.

This bird is not at all uncommon in the cedar-woods about Simla. Specimens procured there, in 1866, have the following dimensions:—

	Length.	Wing.	Tail.	Tarsus.	Bill from front.	Extent.
A	5·5	2·75	2·125	·625	·75	7·95
B......	5·2	2·625	2·125	·655	·625	7·75
C......	4·375	2·25	1·5	·5	·4375	6·5
D......	4·5	2·25	1·625	·5625	·5625	6·5

The last two are fully fledged young of the year, obtained 10th of May.

In the adult the hind claw alone is equal to ·375 in. in length, and the bill can scarcely be termed "blackish" as by Dr. Jerdon, but may more correctly be described as having the upper mandible brown, and the lower one flesh-coloured, except at the tip, which is brown also; the legs are fleshy-brown. The superciliary streak in my specimens is fulvous-white; the tail is somewhat abraded; my first specimen, killed 11th of April, was shot whilst feeding at the foot of a tree-stump, amongst the moss and grass apparently. The second, killed on the 8th of May, had the upper mandible dark brown, almost black; the lower one was, like the first, flesh-coloured. On the 10th of May I shot a pair of young ones together on a deodar, in some crevice of which the nest had probably been; they were fully fledged, but a good deal smaller than the adult bird, as will be seen by the above table of their dimensions; their under tail-coverts and under wing-coverts were of a very fluffy character.

244. CERTHIA NIPALENSIS. Nepaul Tree-creeper.

245. Certhia discolor. Sikhim Tree-creeper.

Both these were procured by me at Darjeeling, in 1862.

249. Sitta leucopsis. White-cheeked Nuthatch.

Observed by me at Mahasoo, beyond Simla in September 1866, on the bark of a half decayed pine (*Pinus excelsa*). The note of this species is very peculiar, more like that of a frog or insect, than that of a bird. It consists of a single harsh note, which I can hardly attempt to syllable. I noticed specimens in Dr. Stoliczka's collection, some of which were procured at Simla (*cf.* Ibis, 1868, p. 307), but I have never observed the species there. On the 2nd of October I secured one of a pair which were frequenting a half-decayed pine. The dimensions of my specimen in the flesh were as follows:—Length 5·375, wing 3, tail 1·75, tarsus ·6875, spread of foot 1·4375, bill from front ·6875, from gape ·875 in. The bill has the upper mandible and the terminal half of the lower black, the basal half of the lower being of a blue-lead colour; the legs are black; the irides brown. There is a white spot at the base of the winglet, which does not seem to be mentioned by Dr. Jerdon.

250. Sitta castaneoventris. Chestnut-bellied Nuthatch.

I made my first acquaintance with this handsome little bird, when staying at Umballah with the late Dr. Scott (who had not previously observed it there, though Col. Tytler had), and on the 22nd of October, 1866, shot one in his garden. I give the dimensions of this specimen and of two others procured in the same locality a few days later.

	Length.	Wing.	Tail.	Tarsus.	Bill from front.	Extent.
	5·125	2·95	1·5	·6875	·6875	8·75
♂ ..	5·125	3	1·5	·6875	·625	8·75
♀ ..	4·875	2·875	1·5	·625	·625	8·5

These specimens were killed in a grove of tamarisk trees, when apparently seeking for small insects. The black line, including the ear-coverts, from the eyes extends to *beyond* the nape on either side, which is not exactly as Dr. Jerdon tells us. The primaries have a white spot underneath at their base; the under tail-coverts are ashy-blue, tipped with dark cinnamon-colour; the two middle tail-feathers are grey, the rest are black on their inner webs, with the outer webs greyish, the three outer pairs having a white spot on their inner webs, near the tip.

251. SITTA CINNAMOMEOVENTRIS. Cinnamon-bellied Nuthatch.

I am nearly sure I observed one or two of this species when riding from Simla to Mahasoo, on the 29th of September, 1866; but as I did not procure a specimen, I cannot, of course, be positive on this point; for I see that Dr. Jerdon says it has only been procured from the South-eastern Himalayas, and neither Col. Tytler in his recent paper (Ibis, 1868, p. 196), nor Dr. Stoliczka in his (Ibis, 1868, p. 307), includes it, so that I may be mistaken.

253. DENDROPHILA FRONTALIS. Velvet-fronted Blue Nuthatch.

I procured my first and only specimen of this very beautiful little bird in Tennasserim, on the 18th of October, 1865. It was on my trip up Zwagaben, a limestone mountain near Moulmein (*cf.* P. Z. S. 1866, p. 2), when we had got to our first resting-place, halfway up the hill, where several "poongye" or priests' houses are situated in a beautiful little nook on the side of the mountain, under the shadow of some fine large shady trees, under which we rested and refreshed our weary selves whilst ever on the look-out for something new. I suddenly spied a solitary example of this beautiful little gem in the tree above me, and was cruel enough to use my gun upon it, for the sake of science, but much against the wishes, not only of my companions, but also of the Buddhist priests by whom I was surrounded. In fact it *did* seem a shame killing such a lovely little creature without good reason, and I must confess to feeling something more than a pang of regret after using the destroying weapon. However, as naturalists are popularly supposed to be without feelings, I must not here display mine, but proceed to record the dimensions of my specimen (which was rather smaller than those given by Dr. Jerdon), viz.:—Length 4·75, wing 2·7, tail 1·5, tarsus ·5, middle toe ·75, hind toe ·75, spread of foot underneath including the claws 1·5, bill from front ·625, extent

8·375 in. The bill was coral-red; the irides of the brighest yellow, and the legs and claws of a rusty-brown colour. The bird was apparently solitary, and climbing the bough of a large tree.

[To be continued.]

XXXVIII.—*On rare or little-known* Limicolæ.

By James Edmund Harting, F.L.S., F.Z.S.

(Plate XII.)

[Continued from p. 310.]

Notwithstanding the vagrant habits of the species which compose the present group, and the increasing researches of naturalists in all quarters of the globe, it is remarkable that a bird which was described more than a century ago by Linnæus should still be one of the rarest and least-known. From a perusal of all that has hitherto been published with reference to this species, it would appear that those who followed more immediately in the wake of Linnæus did little else than copy his original description, perpetuating by so doing the erroneous habitat which had been assigned to the bird, and adding little or nothing to its history. Under the name of *Platalea pygmæa* or *Eurynorhynchus griseus* certain authors have created some confusion by describing birds which were properly referable to some other species, while the few original descriptions on record have all been taken from specimens which were procured in the winter plumage. For a long time the true habitat of *Eurynorhynchus* was unknown; and even at the present day its precise geographical range remains undetermined.

In the present paper I propose to set forth all the trustworthy information which I have been able to obtain concerning this remarkable bird, to point out the localities whence authentic specimens have been procured, and especially to direct attention to the summer plumage, which hitherto, so far as I am aware, has neither been figured nor described.

The synonymy will stand as follows:—

2. EURYNORHYNCHUS* PYGMÆUS.

Platalea pygmæa, Linn. Mus. Ad. Frid. ii. Prodr. p. 26 (1764); *Id.* Syst. Nat. i. p. 231 (12 ed., 1766); P. L. S. Müller, Linn. Natursyst. ii. p. 363 (1773); Herm. Tab. Aff. An. p. 135 (1777); Gmel. Syst. Nat. i. p. 615 (1788); Lath. Ind. Orn. ii. p. 669 (1790); *Id.* Gen. Hist. B. ix. p. 7 (1824); Donndorff, Orn. Beytr. i. p. 942 (1794); Thunberg, K. Vet. Ac. Handl. (Holm.) 1816, pp. 194–198, pl. vi.; Shaw, Gen. Zool. xi. p. 645 (1819).

"*Eurynorhynchus griseus*, Nils.," Temm. Man. d'Orn. ii. p. 594 (2 ed. 1820); Nilsson, Orn. Suec. ii. p. 29 (1821); Cuvier, Règ. An. i. p. 528 (1829); *Id.*, Griffith's ed., iii. p. 383 (1829); Lesson, Tr. d'Orn. p. 562 (1831); *Id.* Compl. Buffon, ix. p. 432 (1837); Hartlaub, R. Z. 1841, p. 5.

Eurynorhynchus pygmæus, Pearson, J. A. S. B. v. p. 127 (1836); *Id.* As. Res. xix. p. 69, pl. ix. (1836); Bonap. Comp. List, p. 49 (1838); *Id.* C. R. xliii. p. 596 (1856); Hartlaub, R. Z. 1842, p. 36; *Id.* J. f. O. 1859, pp. 325–329; Lafresnaye, R. Z. 1842, p. 402, pl. ii.; Schlegel, Rev. Crit. p. 97 (1844); *Id.* Handleiding, i. p. 436, pl. vi. fig. 73; G. R. Gray, Gen. B. iii. p. 580, pls. 152 & 156. fig. 6 (1845); Reichenbach, Av. Syst. Nat. Grall. pl. xiii. (1849); Sclater, P. Z. S. 1859, p. 201; Hartlaub, J. f. O. 1859, pp. 325–329; Cabanis, *tom. cit.* pp. 327, 328, notes; *Id. op. cit.* 1860, pp. 299, 300; Lilljeborg, *tom. cit.* p. 299; Von Pelzeln, *tom. cit.* pp. 460, 461; Swinhoe, P. Z. S. 1863, p. 317; *Id. op. cit.* 1864, p. 272; Jerdon, B. Ind. iii. pp. 692, 693 (1864); Blyth, Ibis, 1867, p. 169; A. Newton, *tom. cit.* pp. 235, 236, note.

Eurynorhynchus orientalis, Blyth, Ann. & Mag. N. H. xiii. pp. 178, 179 (1844); *Id.* Cat. B. Mus. Calc. p. 270 (1849); Swinhoe, Ibis, 1867, pp. 234, 235.

Hab. Mouths of the Ganges, and east coast of Bay of Bengal

---

* It seems unnecessary to follow the various spellings or misspellings to which this generic name has been subject, such as *Eurhinorhynchus*, *Eurinorhynchus*, *Eurynorynchus*, *Eurinoryncus*, *Eurinorinchus*, *Eurinorhyncus*, *Eurinorincus*, *Eurinorhyncus*, and so forth; for there can be little doubt, notwithstanding Dr. Cabanis's remark (J. f. O. 1859, p. 328, note), that, as originally printed, Prof. Nilsson's is the true orthography:—*Eurynorhynchus*: th. εὐρύνω, *dilato*; ῥύγχος, *rostrum*. The same may be said of *Platelea* and *Platalæa* for *Platalea*, and *pygmea* for *pygmæa*, to say nothing of *grisæus* for *griseus*!

(*Blyth, Jerdon*); Edmonstone's Island, Saugur Sand (*Newcombe* teste *Pearson*); Saugur Island (teste *Hartlaub*); Chittagong (*J. E. Bruce, Chapman* teste *Blyth*); Arracan (*Lloyd* teste *Pearson*); Amherst in Tenasserim (*O'Reilly* teste *Blyth*); Amoy (*Swinhoe*); Behring's Straits, N. E. Asia (*Barrow* teste *Sclater*).

Description (*Adult in winter*).—Bill black, longer than the head, flat, dilated considerably at the extremity in a rhomboidal shape. Tongue broad and smooth. Forehead, cheeks, throat, and underparts pure white; crown, nape and sides of neck, back, wings, and upper tail-coverts dusky brown, each feather margined more or less with pale grey. Wings long and pointed; shafts of the primaries white; first quill-feather the longest. Tail short, rounded, consisting of twelve feathers, the two middle feathers the longest and darkest in colour. Legs and toes black, moderately long, slender, three toes in front, one behind, margined along the sides; a slight membrane connecting the base of the middle and outer toe on each foot. Total length 6 inches; bill 1 inch; wing, from carpus, 3·7; tarsus 0·9. (Exempl. typ. in Mus. Upsal. *fide auctt. citt.*)

Adult in summer (hitherto undescribed).—Bill as above. Head, neck, breast, and back ferruginous; the feathers of the head, nape, and back with dark brown centres; those of the throat and breast slightly margined with white. Underparts, from the breast downwards, becoming gradually whiter towards the tail. Primaries somewhat darker than in winter. Legs and toes black. (Exempl. in Mus. Acad. Oxon.)

The earliest notice of this species is to be found in an octavo catalogue usually appended to his 'Museum Ludovicæ Ulricæ Reginæ Suecorum,' &c., published by Linnæus in 1764; but entitled 'Museum Adolphi Friderici Regis Suecorum,' &c., 'Tomi secundi Prodromus'[*]. He, no doubt from the form of the bill, referred this species to the genus *Platalea*; but that he did so with hesitation is shown by the following remark:—"Mirum parvam adeo avem, quæ minima[†] omnium nobis notarum Grallarum est, dari in genere, ubi altera species maxima; simile exemplum non novi." A comparison, however, shows that beyond this resemblance it has really no connexion with *Platalea.* Its affinities, as pointed out by Cuvier and Temminck, are certainly with the genus *Tringa.* Bonaparte, in his 'Tableaux parallèliques des Échassiers,' has placed it between *Calidris arenaria* and *Tringa platyrhyncha*; but while assenting to the generic relationship claimed for it, I venture to demur only to the species near which it has been placed. The *Tringinæ* may be conveniently divided into two large groups—the one comprising those species which adopt a rufous plumage in the breeding-time, the other those which assume a blackish dress at the same season. It will be found, on separating a series in this way, that the species thus brought together have other characters in common besides the peculiar seasonal change of colour. Taking into consideration, therefore, not only the structure but likewise the character of the nuptial plumage, the conclusion at which I arrive is, that the species now before us should be placed between *Ereunetes petrificatus*, Illiger, and *Tringa subarcuata.* At the same time, it differs sufficiently from both to justify the course which Nilsson adopted in forming for its reception the new genus *Eurynorhynchus.* In this genus it at present stands alone.

---

[*] This promised *second* volume never appeared; the first, in folio, which is well known, was published in 1754.

[†] Only one very small species of *Tringa* (*T. pusilla*) was known to Linnæus even in 1766, and that apparently on Brisson's authority.

Gmelin, Latham, and Shaw all followed Linnæus in their description of this bird; and, indeed, until the year 1836 it does not appear that any other than the original type-specimen existed*. It is very doubtful whether Bancroft, who in 1769 published an 'Essay on the Natural History of Guiana,' was acquainted with this bird, although under the name of *Platalea* he describes (p. 171) a small species of the group *Limicolæ.* We may consider his remarks from two points of view. In treating of the ornithology of Guiana, he may have included *Platalea pygmæa* in his list of species only because Linnæus had erroneously supposed that its habitat was Surinam. On the other hand, if we give him credit for having described such species only as he had himself observed, we must conclude that he mistook some other bird for that to which he refers. Dr. Hartlaub has expressed an opinion that Bancroft's bird was probably the *Ereunetes* of Illiger; but I do not think that such a conclusion is justified by the author's description. Bancroft remarks (*l. c.*), "Here is also the *Platalæa* of *Linnæus*, with a flattish bill, dilated, orbiculated, and flat at the point. It is of the size of a Sparrow: the upper part of its body is brown, but the lower is white; and it has four toes palmated." From this last statement I should infer that the bird was most probably *Phalaropus fulicarius* in winter plumage.

---

* According to Prof. Lilljeborg, in 1860 this specimen was still in the Museum at Upsala (*cf.* Journ. f. Orn. 1860, p. 299).

In the Transactions of the Academy of Sciences of Stockholm for 1816 (*l. c.*) the Swedish naturalist Thunberg published a full description of the Spoon-billed Sandpiper under the title of *Platalea pygmæa**; and subsequently Nilsson†, in his 'Ornithologia Suecica' (*l. c.*), founded on this bird the new genus *Eurynorhynchus*, at the same time bestowing the specific name of *griseus*, which more recent investigation has shown to be applicable to this bird in the winter plumage only. Here, again, it seems necessary to correct a mistake which has been made by several authors in attributing to Nilsson the paper which appeared in the 'Transactions' above mentioned, Nilsson's observations having been published five years later in his 'Ornithologia Suecica.'

Lesson has included this species in his various works, but his notions respecting it seem to have been very vague. In his 'Manuel d'Ornithologie' he remarks (*l. c.*), "Cet oiseau nous semble être le *Tyran bec en cuiller*," referring to a genus (*Tyrannus*) which is as unlike it as well can be! In his 'Traité' (*l. c.*) he says, "Du nord de l'ancien et du nouveau continent; très rare en Europe; le muséum en possède un individu tué près de

---

* "*Platalea pygmæa* vidare beskrifven, med figur, af C. P. Thunberg."

† It would seem as if Nilsson had previously communicated his intention of founding this genus to Temminck, since the last-named naturalist mentioned it (*ut suprà cit.*) in his work published in 1820, while Nilsson's *second* volume, containing the description, did not appear till 1821. Cuvier or his printer put "Wilson" for "Nilsson;" and this error has been frequently copied.

Paris"*; and the last-mentioned remark is repeated in his 'Complément des œuvres de Buffon' (*l. c*). Three years only after this statement appeared, Dr. Hartlaub searched the Museum in Paris for the specimen referred to, but without success; and I myself more recently have likewise been unable to find it there. Dr. Hartlaub is of opinion† that Lesson must have mistaken some other bird for *Eurynorhynchus*, and that it was an error to suppose that this species had ever been killed in France‡. When we call to mind the occasional appearance in Western Europe of many other eastern species, it cannot be asserted that the occurrence of *Eurynorhynchus pygmæus* in France is impossible. At the same time, it may be confidently stated that up to the present time there is no evidence to show that this species has been found even in Europe.

In 1836, Mr. Pearson, who was then Curator of the Asiatic Society's Museum at Calcutta, published in the 'Asiatic Researches' (*l. c.*) an able description of the Spoon-billed Sandpiper from a specimen in the winter plumage, which had been procured on Edmonstone's Island, Saugur Sand, and presented to the Society's Museum by Mr. Newcombe; and he very properly took this opportunity of restoring the specific name which had been bestowed by Linnæus. Subsequently Mr. Blyth§ expressed a doubt whether this specimen was identical with the bird described by Linnæus, and in consequence named it provisionally *Eurynorhynchus orientalis*. He has, however, lately informed me of a change in his views; and recent investigation shows that there is no ground for supposing that there is more than one species of this genus. Mr. Pearson illustrated his description with a representation of the specimen to which he referred; and this places its identity beyond a doubt. It may here be convenient to notice the figures which have already been published of this very remarkable bird. Commencing with that of Thunberg in 1816, Mr. Pearson's is next in order of date. A third was given by Lafresnaye in the 'Revue Zoologique' for 1842, to illustrate a valuable notice of the bird by Dr. Hartlaub, which had appeared in the same journal the same year*. These three figures are little more than outlines, and afford no idea of the distribution of colour. In 1849 Mr. G. R. Gray published his valuable 'Genera of Birds,' and here for the first time we find a well-executed plate by Mitchell of *Eurynorhynchus pygmæus* in the winter plumage. Reichenbach in the same year engraved the head and bill in his work as above quoted; while the latest figure, so far as I am aware, is that given by Prof. Schlegel in the plates to his 'Handleiding.'

---

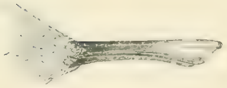
* It was probably on the strength of this assertion that Bonaparte introduced this species in his 'Comparative List of the Birds of Europe and North America' (*l. c.*) as a European species.

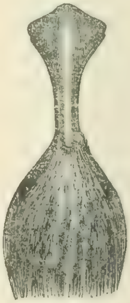
† Revue Zoologique, 1842, p. 36.

‡ M. Jules Verreaux has recently informed me that no specimen of *Eurynorhynchus* ever existed in the Paris Museum, and that the bird to which Lesson referred under the name of *Eurynorhynchus griseus*, and subsequently under the name of *Erolia varia*, Vieillot, is nothing else than a *Tringa subarcuata* with the hind toes cut off, and the bill remodelled with the aid of some warm water!

§ Ann. & Mag. N. H. 1844, xiii. pp. 178, 179.

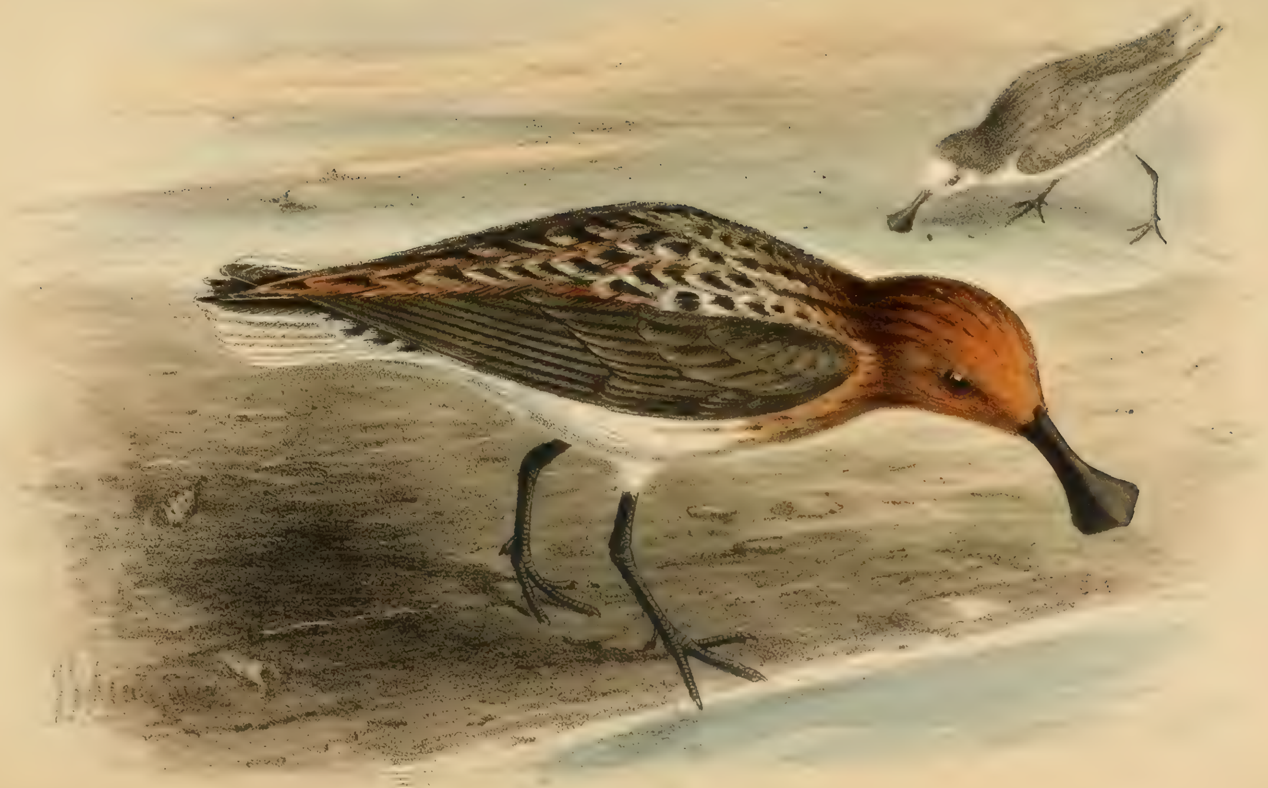
Since these illustrations have all been taken from specimens in the winter plumage, and as the nuptial dress has never yet been figured, the accompanying plate (Plate XII.), it is believed, will be very acceptable to ornithologists, while the woodcuts of the bill, from sketches made from a freshly-killed bird by Mr. Swinhoe (Ibis, 1867, pp. 234, 235), will convey an accurate idea of its singular proportions. The specimen from which the plate is drawn by Mr. J. G. Keulemans was obtained in Behring's Straits, on one of the Arctic expeditions, under Capt.





---

* This figure is stated to have been copied from an original drawing by Natterer of the type-specimen at Upsala.



EURYNORHYNCHUS PYGMÆUS.

Moore, in H.M.S. 'Plover.' It was exhibited by Mr. Sclater, on behalf of the owner, Mr. John Barrow, F.R.S., at one of the Zoological Society's Meetings in 1859; and Mr. Barrow has recently presented it, with the remainder of his collection, to the New Museum at Oxford, where it may now be seen. I am not aware of the existence of any other example in this stage of plumage. In the case of so rare a species a list of the specimens which are at present known to exist will, doubtless, be interesting to many. I have therefore been at some pains to collect the following information:—

1. The type-specimen of Linnæus, locality unknown, but said (no doubt erroneously) to have been from Surinam, was in the Museum at Upsala in 1860 (*cf.* Journ. f. Orn. 1860, p. 299).

2. One from Edmonstone's Island, Saugur Sand, presented by Mr. Newcombe to the Museum of the Asiatic Society at Calcutta in 1836 (Journ. As. Soc. Beng. v. p. 127).

3. One met with in Arracan by Capt. Lloyd in 1836 (Asiatic Researches, xix. p. 71).

4. One obtained in the Calcutta Bazaar 1840 (Ann. & Mag. N. H. xiii. 1844, p. 178).

5. One from Saugur Island, mouth of the Ganges, in the Derby Museum at Liverpool. Purchased by the late Earl Derby from Mr. Leadbeater, about the year 1840 (Rev. Zool. 1842, p. 6).

6, 7. Two procured in 1846, at Amherst, in Tenasserim, by Mr. E. O'Ryley (Cat. Birds Mus. As. Soc. Calcutta, p. 270).

8–11. Three specimens in spirits, and one skin, sent by Mr. J. E. Bruce from Chittagong 1856 (Journ. As. Soc. Beng. xxv. p. 445).

12–23. Twelve killed at two shots (!) by Mr. Chapman in Chittagong (Journ. f. Orn. 1859, pp. 326, 327).

24. One in summer plumage from Behring's Straits, by the expedition under Capt. Moore in H.M.S. 'Plover' (Proc. Zool. Soc. 1859, p. 201). Now in the New Museum at Oxford.

No specimen of this bird is to be found either in the British Museum or in the Museum of the Jardin des Plantes at Paris. Those who have had the opportunity of observing the habits of the Spoon-billed Sandpiper assert that it frequents the mud-flats at the mouths of rivers, and the sands of the sea-shore, where it consorts with various species of *Tringæ*, and obtains from the surface the abundant harvest of food which is always left by a receding tide.

Of its nidification nothing is yet known; but, as the same may be said of *Tringa canutus*, *Tringa subarcuata*, and other *Limicolæ*, we can only look wistfully towards that large tract of continent in Northern and North-eastern Asia still unexplored, and dream of the oological treasures which are surely there enclosed.

XXXIX.—*Notes on some African Birds.*

By the Rev. H. B. Tristram, M.A., LL.D., F.R.S., &c.

Among the many rarities in the last collection (alas! that we must say the *last*) sent home by the late Mr. Andersson from Damaraland and Ovampoland is one novelty, a very pretty little Lark, distinct from any which I can ascertain to have been described from South Africa, and to which I propose to give the name of

Megalophonus anderssoni, sp. n.

M. capite læte castaneo-rufo; dorso fusco, plumarum parte mediâ nigricante: scapularibus fusco-nigris, castaneo terminatis: primariis nigricanti-brunneis, rufo externe limbatis: rectricibus fusco-nigris, duobus mediis castaneo-fuscis, pogonio cinnamomeo: corpore subtus (gula, abdomine) albo, in lateribus rufo-tincto, et collari pectorali cinnamomeo: utrinque macula brunneo-nigra jugulari: linea postoculari et superciliis albis: rostro carneo: pedibus et tarsis pallide brunneis.

Long. tot. 5·2, rostri a rictu 0·5, alæ 3·15, caudæ 2·2, tarsi 0·65, hall. c. ung. 0·5, poll. angl.

The type specimen was shot by Mr. Andersson at Otjimbinque, Damaraland, 13th March, 1865, and is marked by him doubtfully as "*Alauda spleniata*, Strickl.?" On referring to Strickland's description of that species (Contrib. Ornith. 1852, p. 152), it is evident that they are very different, and that Strickland's bird is identical with *Megalophonus cinereus*

(Vieill.)* (=*Alauda ruficapilla*, A. Smith=*A. ruficeps*, Rüpp.). Strickland observes that his *A. spleniata* is allied to Rüppell's *A. ruficeps*; but that (Neue Wirbelthiere, pl. 38. fig. 1) has a black, not a rufous, patch on each side of the breast. I suspect this arises from a little overcolouring in the plate; for in some of my specimens of *M. cinereus* the rufous patch blends into a brown-black spot at the top, just as in this little new species. It is possible that *A. ruficeps*, Rüpp., may be distinct; but *A. spleniata*, Strickl., and *M. ruficapillus*, A. Smith, must merge in *M. cinereus* (Vieill.), a very inappropriate name, which I would gladly reject but for the inexorable claims of priority.

Megalophonus anderssoni is nearly allied to *M. cinereus* in coloration, but differs in its proportions, and bears a relation to it similar to that which *M. africanoides* does to *M. africanus*, and *M. chenianus* to *M. sabota*. The rufous colour, however, is continuous, and not interrupted as in *M. cinereus*, and the spots of brown black on each side of the neck are very distinct.

The range of this bird is considerable, as Mr. Blanford has procured it in Abyssinia. His specimen is slightly more rufous on the flanks than mine.

Mr. Andersson forwarded the nest and eggs along with the skin. The eggs are very sparsely spotted, for a Lark's, with russet on a greenish-white ground, and are smaller than those of any other South-African Lark. In their pale and sparse coloration they resemble the eggs of *Certhilauda africana*.

If I may be permitted to add a few other remarks on some African birds, I would observe that, among the birds in Mr. Blanford's Abyssinian collection is a specimen of my *Certhilauda salvini* (Ibis, 1859, p. 57). Dr. Finsch has pronounced it to be the type of a new species; but I have, along with Mr. Gurney, compared it with my type, and we are both agreed as to its identity. At the same time, I do not think my species is more than a local race. Dr. Finsch would distinguish the Abyssinian bird also by the thickly-spotted breast. This is a most variable character in *Certhilauda desertorum* and *C. salvini* alike; and in my series I find specimens varying from a thickly-spotted gorget to one almost plain.

---

* [*Qu.* (Gmel.)?—Ed.]

Mr. Gurney has kindly been examining my African birds with me; and his valuable assistance enables me to make some rectifications in synonymy, and to extend the boundaries of the range of some species.

The range of *Phasmoptynx capensis* must now be extended to Asia, for it has recently been procured by Mr. Wyatt on Mount Sinai in young plumage. Its range is thus from the Cape to Spain and Arabia.

Hirundo albigularis, Strickl. (Cont. Orn. 1849, p. 17, pl. xv.), with which *H. albigula,* Bp., and *H. rufifrons,* Less. (no. 85, Layard, B. S. Afr.), are synonymous, must probably be put down as a synonym of *H. rufifrons,* Vieill. (no. 80, Layard), which, however, has been incorrectly described by Stephens as having a black *throat* and breast. This is the only difference in the descriptions, and seems to have arisen from a mistake of Le Vaillant's. Specimens from Messrs. Layard, Andersson, and Ayres are all identical; and no one appears ever to have seen the Swallow with a black throat.

There have been two species confounded under the names of *Cotyle palustris,* Steph. (=*Hirundo paludicola,* Vieill. = *C. paludibula,* Rüpp.)—one from the north, the other from the south of Africa. The northern bird, which I have obtained by the Dead Sea, and received from Egypt and Abyssinia, is perfectly distinct from the southern, having, like *C. rupestris* and *C. fuligula,* a large white spot on the inner web of each of the rectrices, except the outer and middle covering pairs. It is larger than the southern bird—which has no white spots on the rectrices, and has also the throat and breast darker brown, gradually blending into pure white on the abdomen, while the northern bird has the whole under surface of a uniform dirty white colour.

It is curious that the distinction has not been before noted. I only discovered it on receiving specimens of the South-African bird. As the original description undoubtedly refers to the South-African species, I should propose, in preference to taking a new name for the northern species, to assign to it Rüppell's

Cotyle paludibula, though the description is imperfect. In that case, this name *C. paludibula* should stand for *C. palustris* in the various notices of this Martin by Mr. Taylor, myself (P. Z. S. 1864, p. 443; Ibis, 1867, p. 363), and others in Northern and Eastern Africa.

There is some confusion about *Anthus sordidus,* Rupp. Mr. Blyth has adopted the name for an Indian species, which appears to be perfectly distinct (*cf. suprà,* p. 120). Through the kindness of Mr. Blanford I have just had the opportunity of examining six specimens from Abyssinia, whence came Rüppell's type, and find them clearly distinct from the South-African, East-African, and Indian birds.

Mr. Layard treats *Anthus sordidus,* Rüpp. (no. 226, Layard), as identical with *Corydalla sordida,* Blyth, and *Anthus gouldi,* Fraser. But a typical specimen of *A. gouldi,* Fraser, from the Gaboon, shows its distinctness from either the Indian or the Abyssinian bird. I fear I shall have to crave pardon from the goodnature of my old friend Mr. Layard, if I not only assert the distinctness of his three synonyms, but also raise a doubt as to whether any one of the three has yet occurred within his limits. May it not have been *A. caffer*? One specimen, kindly sent me by Mr. Layard, is certainly the latter, though called *A. sordidus.* I have *A. caffer* again from the Transvaal territory.

The history of *A. sordidus* being recorded from Natal is, that Mr. Gurney, on Mr. G. R. Gray's authority, included *A. gouldi* in the first list of birds sent by Mr. Ayres from Natal (Ibis, 1860, p. 208). But *A. gouldi* being not a synonym, and possibly the bird having been *A. caffer* (the large race), it may not be absolute heresy to question the occurrence of Rüppell's bird in South Africa. It will also be interesting to compare *Anthus calthropæ,* Layard, with *A. brachyurus,* Sund. *Anthus chloris,* Licht., however, is an addition to Mr. Layard's list, having been procured at Cape Town by Andersson*.

Turning to a very different group of birds, I am unable to separate *Butorides atricapilla* (Afzel.) (no. 587, Layard) from *B. javanica* (Horsf.) as found on the mainland of China. Mr. Swinhoe's specimens from Formosa are considerably larger, but differ in no other respect from *B. atricapilla* as sent by Mr. Ayres from Natal. Mr. Gurney also agrees with me in the opinion that *B. atricapilla* is identical with *B. javanica**.

---

* [*Cf. suprà,* p. 368.—Ed.]

XL.—*Notes on the Bills of the species of Flamingo* (Phœnicopterus). By G. R. Gray, F.R.S. &c.

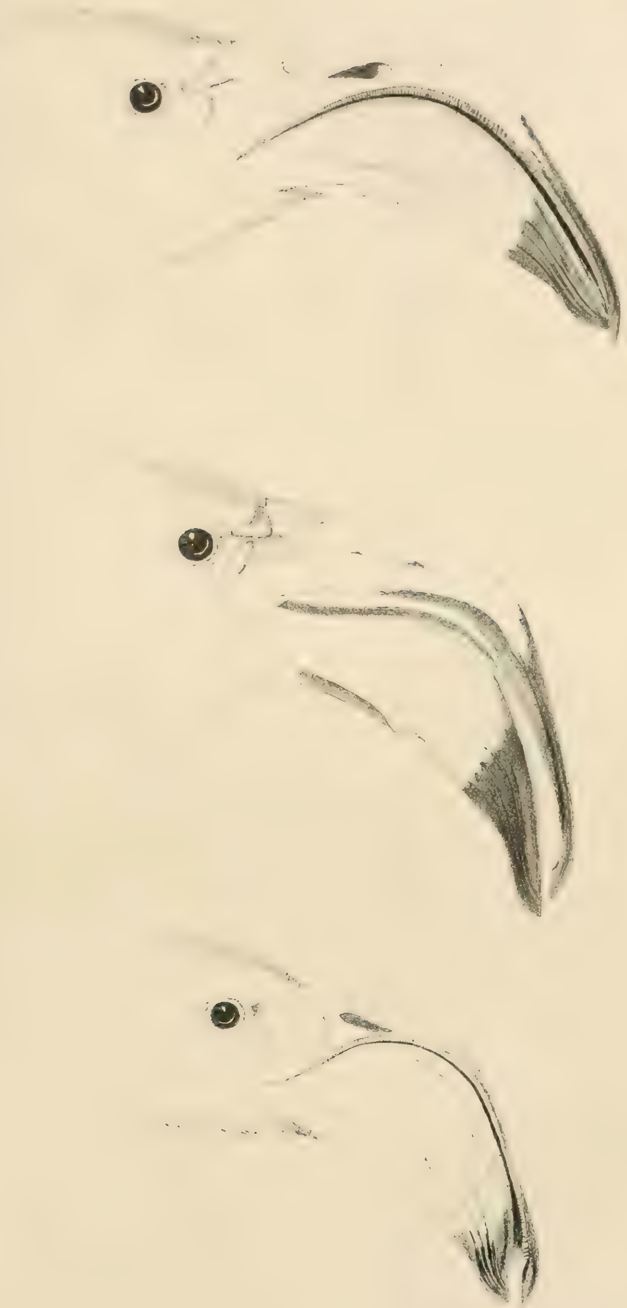
(Plates XIII.-XV.)

From the days of Linnæus (1758) down to those of Latham (1824) it was supposed that only two species of *Phœnicopterus* existed; and one of these was considered to inhabit both the Old World and the New. The European bird was regarded by Bonnaterre, in 1790, as a variety of the American one; but in 1820 Temminck proposed to separate the European bird as a distinct species, under the name of *P. antiquorum*, leaving the American one as *P. ruber*. The correctness of this separation, however, was doubted by Latham in his 'History of Birds,' in 1824. Another species, not mentioned by previous authors, was added in 1797 by Geoffroy St.-Hilaire, who described a small one under the name of *P. minor* from West Africa, which made the third species then (that is, prior to 1820) known, viz. *P. ruber*, L. 1758, *P. chilensis*, Mol. 1782, and *P. minor*, Geoffr. 1797. Since then the genus has been increased by the discovery of five other species, about the distinctness of which there exists much diversity of opinion. In the hope of putting an end to these doubts, I have been induced to collect together the following notes and to have drawn the accompanying plates of the bills of Flamingos of different localities. They will, I hope, assist in exemplifying their peculiar conformation, and may be regarded as representations of their specific characters, so that the subject of each of them may become in future an acknowledged species.

The general characteristics of the formation of these singular bills have so often been described by authors, that it is unnecessary to repeat them here; and I will at once endeavour

---

* [*Cf.* Sundevall, Œfvers. K. Vet. Ac. Förhandl. 1849, p. 163, and Schrenck, Reis. Amur-Lande, i. p. 437.—Ed.]

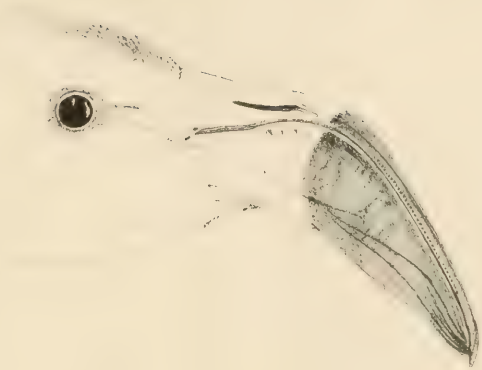


[illegible]

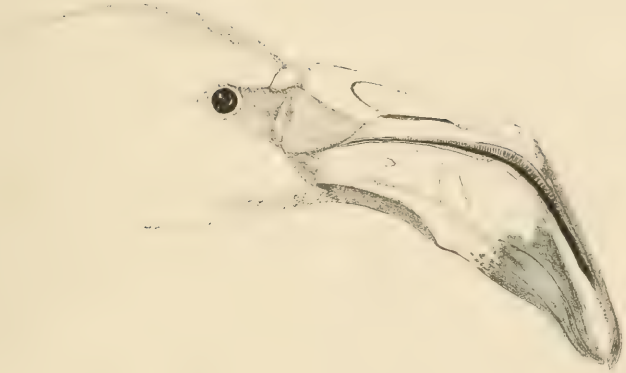
A. Smith del et lith

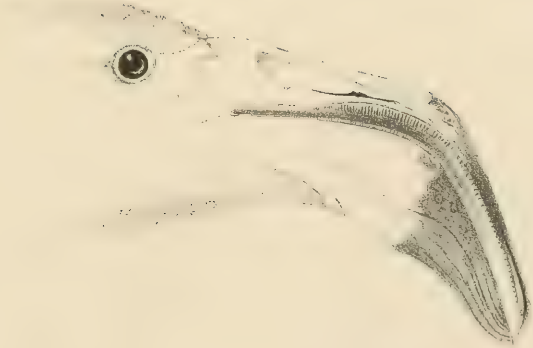
W. [illegible] imp

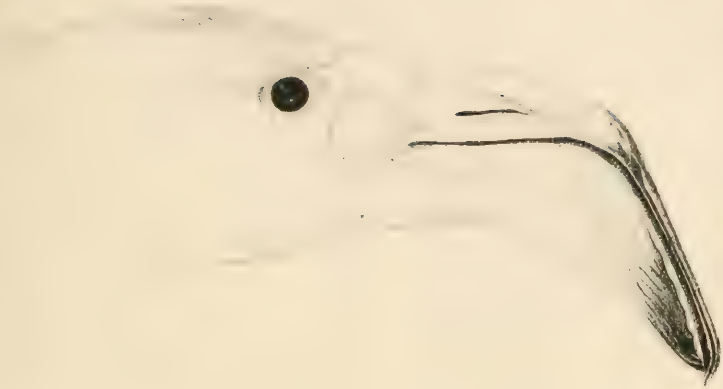
1

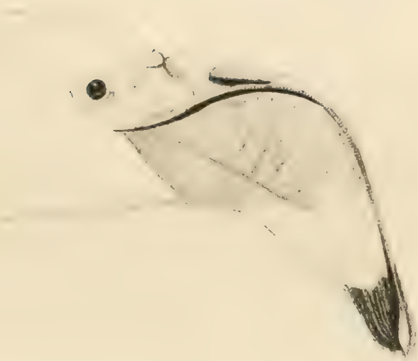


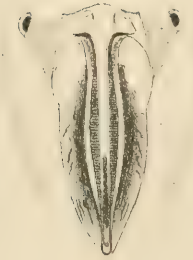
5



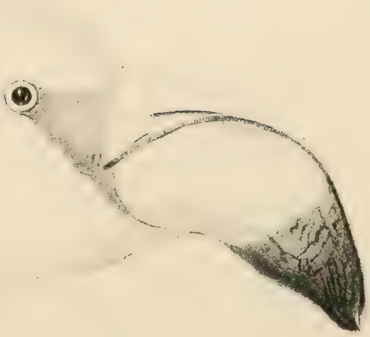








9



10.

Nat. size

J. Smith del. et lith.

W West imp

to point out the differences of conformation that exist among them by taking the bill of the Mediterranean species as the typical form.

This is exhibited in Figure 1, which shows certain characters, viz.:—the posterior margin at the base of the lower mandible narrowed and straight; the lateral margin beneath arched for a short distance from the base, the apex of the arch angulated in front; between these lateral basal arches the space or mentum is naked, with the feathers of the neck advancing slightly forward in the form of a point. This last character is also found in the three next species. Figure 2 represents the bill of a very old Indian example, which is considered to be a variety of the former; but there are several slight differences in it: for instance, the angulation beneath the lower mandible appears stronger, and its tip seems less swollen. A young specimen in the British Museum, from the Cape of Good Hope, has the bill of a very similar form—so much so that I am induced to consider it the same as the Mediterranean species.

Figure 6* shows the differences that exist in the form of the bill of the West-African species, which has been considered by some authors only a variety of *P. antiquorum*: but it is shorter and consequently more robust in appearance; the culmen near the base is somewhat swollen, and then slightly concave towards the bend; it is not apparently angulated beneath the lower mandible, but is rather swollen about the middle of the lower surface; the lateral margins of both mandibles are straight and thereby less arched on the basal half than in the Mediterranean example. The frontal plumes advance in the form of a point on the forehead, while in the typical example they are rounded in front.

Figure 5 is a representation of a new species from the Galapagos. The bill is somewhat slender in its general appearance, the culmen at the base is transversely grooved, and the naked space beneath the basal part of the lower mandible is large, with the apex of the lateral arch angulated. These characters at once point out the differences between it and *P. ruber*, from which it also differs by the narrowness of the posterior margin of the lower mandible.

---

* [*Cf.* Ibis, 1865, p. 65.—Ed.]

Figure 4 shows the more slender form of the bill of the Chilian species. The basal portion of the culmen is shorter than the apical part from where it bends to the tip; the posterior margin of the lower mandible is narrowed and straight, and the apex of the arch of the basal portion of the lower surface is but slightly angulated. These characters and the quantity of black, which extends from the bend to the tip, at once distinguish this species from the preceding ones.

The following species differ from the former by the mentum being feathered.

The first two (Figures 3 and 8) may be distinguished from the other two by the peculiarity of the lateral margins of the lower mandible. It is much arched and ridged, with the inner side along the ridge deflexed inwards and wider than the width of the upper mandible, so that when closed the latter is partly concealed by the parallel ridge, this concealment being assisted by the flatness of its upper surface; the base of the culmen to the bend is shorter than from the latter to the tip; and the nostrils also vary from those of the former division, the nasal groove being short and broad.

Figure 3 differs from Figure 8 by the posterior margin of the lower mandible being very narrow and then slightly curved to the lower surface, thus giving an appearance of angulation. Figure 8 has, on the other hand, the posterior margin of the lower mandible obliquely straight and broad to the surface beneath; the lateral edge of the lower mandible has a prominent longitudinal channel on the basal half, from which spring several less prominent ramifications that proceed upwards to the lateral margin.

These two species may, from their singular bills, be arranged as a separate subgenus under the name of *Phœniconaias*.

Figure 7 exhibits the bill of the Florida species (kindly sent me by Professor Baird), which is robust in its general form; the culmen is straight, from the frontal plumes to the bend, and the basal and apical halves appear to be about equal in length; the lateral posterior margin of the lower mandible is for its greater length obliquely straight, and then suddenly curved to the lower surface. The bill is largely covered by a membrane round the base, which extends narrowly round the eyes.

This species may constitute a distinct subgenus under the appellation of *Phœnicorodias*.

Figures 9 and 10 represent the curiously formed bill of the Flamingo of the Peruvian Andes. It is comparatively short and elevated, with the culmen and lateral margin greatly arched from the base to the tip; the posterior margin of the lower mandible is curved to the under surface without any sign of an angulation; the lateral surface that runs parallel to the lateral margin of the lower mandible is very much swollen on the sides, so as to give a rather wide and flattened surface when viewed in front. The upper mandible is remarkably narrow throughout its length, and rests, when closed, between the swollen sides of the lateral margins; the base of the bill is furnished with a narrow membrane, which widens and expands to the eyes in a somewhat triangular form.

Prof. Philippi's figure of the bill is rather different from the one here represented, as the culmen and lateral margins are comparatively straight, which give rise to a doubt, at first sight, whether it could ever have been meant for the same species.

This remarkable bird is also noticeable for not possessing a hind toe, which is found in all the other species: it was therefore formed by the late Prince C. L. Bonaparte into a separate subgenus under the name of *Phœnicoparrus*.

The following list will best exemplify the species at present known.

PHŒNICOPTERUS, Linn. 1748.

a. *Phœnicopterus*.

1. PHŒNICOPTERUS ANTIQUORUM. (Pl. XIII. figs. 1, 2.)
    P. ruber, pt., Linn. S. N. (1758) i. p. 139.
    P. antiquorum, Temm. Man. d'Orn. (1820) ii. p. 587.
    P. roseus, Pall. Zoogr. (1831) ii. p. 207.
    P. europæus, Swains. Classif. B. ii. p. 364.

Naum. Vög. Deutschl. t. 233; Gould, B. Eur. pl. 287. G. R. Gray & Mitch. Gen. B. pl. clxiii. (*P. ignipalliatus*!)

Coasts and islands of the Mediterranean Sea. Volga, Ural, Kirghis Desert. N. Africa, Lower Egypt, Cape Verd, &c.

Var. *P. ruber,* Sykes, P. Z. S. 1832, p. 159.
P. roseus, var., Blyth, Cat. Mus. Calc. p. 299.
P. antiquus!, Blyth.
P. blythi, Bp. Consp. Av. ii. p. 146.
Throughout India, Ceylon.

Var. *P. erythræus,* Layard, B. S. Afr. p. 345.
Cape of Good Hope.

2. Phœnicopterus erythræus. (Pl. XIV. fig. 6.)
P. erythræus, Verr. Rev. Zool. 1855, p. 221.
P. roseus, β, Blas.
West Africa. Madagascar ?, Mosambique ?

3. Phœnicopterus glyphorhynchus*, sp. n. (Pl. XIV. fig. 5.)
Galapagos.

4. Phœnicopterus ignipalliatus. (Pl. XIV. fig. 4.)
P. ignipalliatus, Geoffr. & D'Orb. Mag. de Zool. 1832, t. 2.
P. chilensis, Molina, Hist. Nat. Chili (1782), p. 214 ?
P. chilensis, Pöpp.
Chili, and, apparently, different parts of the south of South America.

b. *Phœniconaias.*

5. Phœnicopterus rubidus. (Pl. XIII. fig. 3.)
P. minor, Jerd. Cat. No. 374 ? (*nec* Geoffr.)
P. rubidus, Feilden, Ibis, 1868, p. 496.
P. roseus, pt. ?, Jerd. B. Ind. ii. p. 775.
Fifty miles from Secunderabad.

6. Phœnicopterus minor. (Pl. XV. fig. 8.)
P. minor, Geoffr. St. Hil. Bull. Soc. Philom. ii. p. 97.
P. parvus, Vieill. Anal. p. 69.
Pl. Col. 419; Gal. des Ois. t. 273.
West Africa. Cape of Good Hope; Damaraland; Tulbagh, S. Africa.

---

* The characters of the bill already given will serve to distinguish this new species.

c. *Phœnicorodias.*

7. Phœnicopterus ruber. (Pl. XV. fig. 7.)
P. ruber, Linn. S. N. (1758) p. 139.
P. americanus, Sw. Classif. B. ii. p. 364.
P. ignipalliatus, pt., Tschudi, Faun. Per.

Catesby, Carolina, t. 73, 74; Wilson, Am. Orn. pl. 66. fig. 4; Hist. Nat. de la isla de Cuba, t. 29.

Bahamas, Florida, Mexico, Jamaica, Cuba, St. Domingo.

d. *Phœnicoparrus.*

8. Phœnicopterus andinus. (Pl. XV. figs. 9, 10.)
P. andinus, Phil. Reise Andenwüste Atacama, t. iv.

Peruvian Andes, N. Chili, Bolivia.

XLI.—*Notes on the Birds-of-prey of Madagascar and some of the adjacent Islands.* By J. H. Gurney, F.Z.S.

(Plate XVI.)

The Editor of 'The Ibis' having some time since called my attention to the important and interesting conclusions with respect to certain Birds-of-prey arrived at by Prof. Schlegel and M. Pollen in their 'Recherches sur la Faune de Madagascar et de ses Dépendances,' of which mention has been made on several occasions*, I have now the pleasure of making a few observations on the *Accipitres* of Madagascar and the neighbouring islands; and in doing so I must especially express my best thanks to my friend M. Jules Verreaux for his kindness in procuring for me the opportunity of examining the specimens of Madagascar Birds-of-prey preserved in the Museum of the Jardin des Plantes at Paris, and for giving me the assistance of his judgment and long experience in forming an opinion respecting them.

1. Falco minor†, Bonap. South-African Peregrine Falcon.

MM. Schlegel and Pollen (*op. cit.* pp. 30, 31) state that a Falcon which they consider to be specifically identical with the

---

* Ibis, 1868, pp. 224–226, 476, 477; 1869, pp. 112, 113.

† The "*F. peregrinoides*" of Temminck's 'Planches Coloriées' (No. 479) is certainly, for it has the rufous nape, *F. barbarus,* Linn., and not the present species, of which it is often quoted as a synonym.

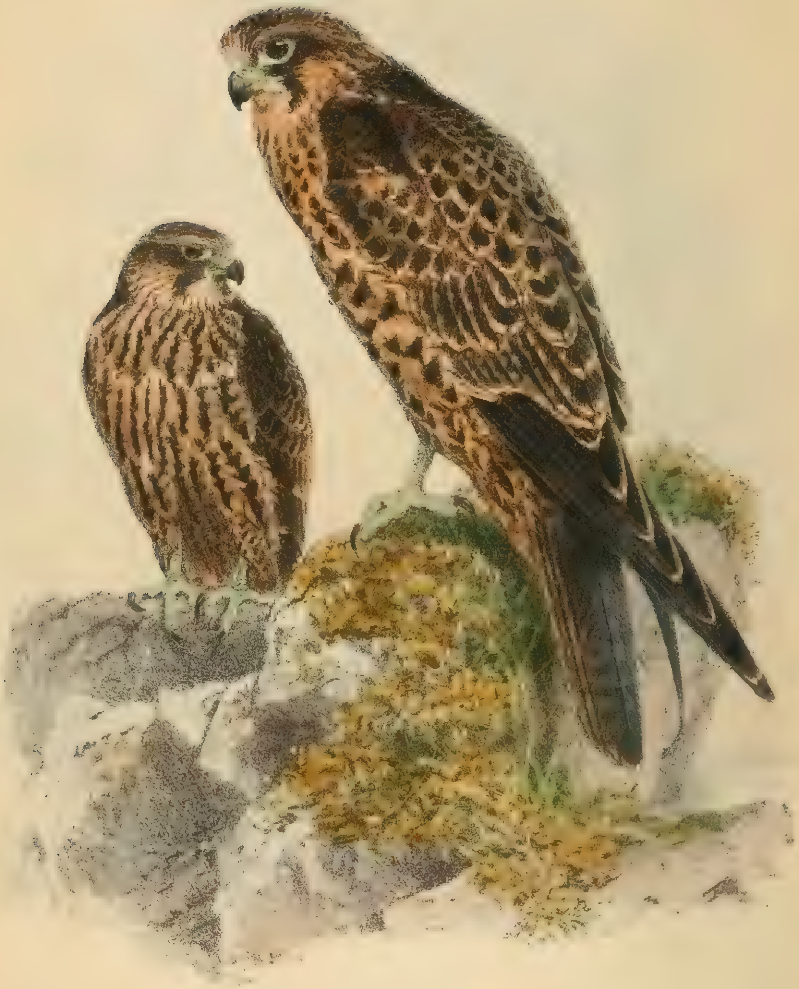
European bird has been obtained in Madagascar, and also on the island of Nossi-bé, and that one of the Madagascar specimens was the type of *F. radama,* Verreaux. The measurements they give of the Nossi-bé bird, which is said to have been a female, appear to me to agree more nearly with those of *F. minor* and *F. melanogenys* than with those of *F. peregrinus* (or *F. communis,* as MM. Schlegel and Pollen term it); and in this opinion I am confirmed by a remark of M. Grandidier (Rev. Zool. 1867, p. 319), who says that the Madagascar Peregrine Falcon only differs, like that of South Africa, from our common Falcon of Europe by being a little less in size. It would therefore seem that *F. radama* should rather rank as a synonym of *F. minor,* or of *F. melanogenys,* than of *F. peregrinus.* MM. Schlegel and Pollen appear to consider that the Madagascar Falcon is identical with *F. melanogenys*; but they do not admit the latter as a species distinct from *F. peregrinus.*

My own view is that both *F. melanogenys* and *F. minor* are specifically distinct from *F. peregrinus*—the size of the Australian and South-African Falcons being always less, and the transverse dark bands on the abdomen in adult specimens being always narrower and usually nearer together in them than in the adult *F. peregrinus.* The question whether *F. minor* and *F. melanogenys* are specifically distinct from each other is a more doubtful one; and I incline to the opinion that no well-defined difference really exists between these two southern forms.

An example of *F. minor* was procured by the late Dr. Dickerson* on the island of Joanna, one of the Comoro group, as recorded by Mr. Sclater (Ibis, 1864, p. 298), and is preserved in the Norwich Museum. This specimen being partially in immature plumage, and its sex not having been noted, I have felt some doubt whether it is a male *F. peregrinus* or a female *F. minor*; but, from the character of the transverse markings which are beginning to appear on the lower parts, I believe it to be the latter, and that its identification by Mr. Sclater (*ut suprà cit.*) was correct, notwithstanding the doubt expressed by MM. Schlegel and Pollen (*op. cit.* p. 31).

---

* This gentleman's name has been several times wrongly spelt "Dickinson."



[illegible] M & N Hanhart imp.

[illegible]

The two Falcons from Madagascar in the Museum of the Jardin des Plantes, under the name of *F. radama*, are, like the Joanna example just mentioned, also in immature plumage, with their sexes unrecorded; but M. Verreaux now agrees with me in regarding them as young females of *F. minor*.

2. Hypotriorchis eleonoræ (Gené). Eleonora's Falcon. (Plate XVI.)

The Norwich Museum possesses the example of a Falcon formerly recorded in this Journal (Ibis, 1862, p. 267), under the name of *Falco radama*, as having been taken at sea off the east coast of Madagascar. I have the testimony of Mr. Edward Newton that this specimen closely resembles the example preserved in the Museum of St. Denis, the capital of Réunion, and described, under the name of *F. radama*, by M. Maillard in his work on that island*, as having been obtained there, which testimony is also confirmed by a comparison of the description with the Norwich bird†. But further comparison also shows that this last, which is the subject of the accompanying plate (Plate XVI.) by Mr. Wolf, agrees completely with a specimen of *H. eleonoræ* in a similar stage of plumage from the Greek archipelago; and it therefore appears that the species last mentioned extends its range to Madagascar, and occasionally also to Réunion, a fact of which MM. Schlegel and Pollen do not seem to be aware.

3. Hypotriorchis concolor (Temm.). Grey Hobby.

MM. Schlegel and Pollen (*op. cit.* p. 31) record two Madagascar examples of this species preserved in the Museum of the Jardin des Plantes, a third in that of Leyden (*op. cit.* p. 165), and two others in the possession of Messrs. A. and E. Newton which were taken at sea off the coast of Madagascar, and are both in immature plumage, as is also a third specimen in the collection of those gentlemen, which was procured in Madagascar by the late Mr. Gerrard. The bird in this plumage is figured by MM. Schlegel and Pollen (*op. cit.* pl. xii. fig. 1); but among the representations of it in its adult state which have been published I may mention that in Gould's 'Birds of Europe' and that (with the egg) in Hemprich and Ehrenberg's 'Symbolæ Physicæ' (pl. 19) under the name of *Falco schistaceus.*

---

* 'Notes sur l'île de la Réunion' (Paris: 1862), p. 160. *Cf.* Ibis, 1863, pp. 103, 104.

† Since these remarks were written I have been informed by M. Verreaux that the Curator of the Réunion Museum has recently visited that of Paris, and has expressed his opinion that the Falcon in the former much resembles the two Madagascar specimens in the latter, which I believe to be immature females of *F. minor*, as already stated.

The Falcon from the Zambesi in the Norwich Museum which I formerly described (Ibis, 1866, p. 127) as an immature specimen of *H. concolor,* appears on further examination not to belong to that species, but to be a young male of *Erythropus amurensis* (Ibis, 1868, pp. 41–43).

4. Dissodectes zoniventris (Peters). Peters's Falcon.

MM. Schlegel and Pollen mention (*op. cit.* p. 165) that the Leyden Museum has recently acquired two examples of this species, hitherto known only by a single specimen which was obtained by Dr. Peters at St. Augustine's Bay in Madagascar, and deposited in the Berlin Museum, but has since been unfortunately lost, though happily a coloured drawing* of it is preserved, from which was taken the description contained in Dr. Hartlaub's 'Ornithologischer Beitrag zur Fauna Madagascar's' (p. 17). Dr. Hartlaub there remarks that in form and colouring this bird forcibly reminds us of the genus *Avicida*; but it is a genuine *Dissodectes,* to which genus it was assigned by Mr. Sclater (Ibis, 1864, p. 306), with comparatively short wings and a double-toothed upper mandible. Both the specimens at Leyden, which by Prof. Schlegel's kindness I have examined, are males, and were obtained in north-eastern Madagascar by M. Van Dam. They agree exactly with Dr. Peters's drawing except that, not being fully adult, the markings are rather less distinct and the white spaces between them rather dusky. The wing from the carpal joint measures 8·75, the tail 5·5, tarsus 1·5, and the middle toe, without the claw, 1 inch.

5. Tinnunculus newtoni, Gurney. Newton's Kestrel.

This species appears to be the only Kestrel hitherto found in Madagascar, and is stated by MM. Schlegel and Pollen (*op. cit.*

---

* [We have to mention with pleasure our indebtedness to Dr. Peters, who at our request some time since most obligingly lent this drawing to us. From it an excellent copy in *fac-simile* was made by Mr. Smit, and this has been at our contributor's disposal for the present paper.—Ed.]

p. 32) to occur also in the neighbouring islands of St. Mary, Nossi-bé, and Nossi-falie.

6. Tinnunculus punctatus (Temm.). Mauritian Kestrel.

This Kestrel seems to be peculiar to the island of Mauritius, though MM. Schlegel and Pollen state (*op. cit.* p. 34) that it appears to wander occasionally to that of Réunion*.

7. Spizaetus occipitalis (Daudin). Occipital Hawk-Eagle.

MM. Schlegel and Pollen (*op. cit.* p. 35) refer to one example of this African species seen, but not obtained, near Nossi-falie.

8. Accipiter franciscæ†, A. Smith.

9. Accipiter madagascariensis, Verreaux.

MM. Schlegel and Pollen state (*op. cit.* p. 36) that the two species above mentioned are not really distinct, and that the first name has been applied by ornithologists only to those male specimens in which the under parts are of a pure white or nearly so, while the second name has been attached to female birds, or to those males more or less resembling the female in plumage from having the breast and abdomen transversely barred with brown or rufous markings, the intensity of which varies greatly in different individuals. After a comparison of specimens of both the so-called species in the Norwich Museum and in the collection of Messrs. A. and E. Newton, as well as an examination of the large series in the Museum at Paris, I confess I feel doubtful as to whether this identification is or is not correct; but I lean to the opinion that the two are distinct, as, if otherwise, the adult male birds differ greatly in the colouring of the pectoral and abdominal portions of their plumage, and more so than seems to be probable in the same species.

Both these Hawks are natives of Madagascar; and the white-breasted form (*A. franciscæ*) occurs also in the Comoro islands, whence one of two examples obtained by the late Dr. Dickerson, and now in the Norwich Museum, was described and figured in the former series of this Journal (Ibis, 1864, p. 298, pl. vii.). The sex of these specimens was not ascertained; but, from the circumstance that one of them is slightly larger than the other—the dimensions of both were recorded (*loc. cit.*)—it may be supposed that they were a pair. If, however, the view of MM. Schlegel and Pollen as to the specific identity of *A. franciscæ* and *A. madagascariensis* be correct, the disparity in size between the two sexes is much greater than that which exists between the two Comoro specimens, which must therefore in that case be both males. The authors just mentioned, in their work, give (pl. xiv.) three figures of *A. madagascariensis*, apparently representing two females, one adult the other immature, and an adult male with transverse abdominal bands.

---

* I do not include in this list any notice of *T. gracilis* of the Seychelles, on account of the great distance of those islands from Madagascar.

† This would seem to be the right mode of spelling the name of this species, which Sir A. Smith conferred in honour of Lady Frances Cole (S. Afr. Q. Journ. 2nd ser. p. 280).

10. Accipiter lantzi, Verreaux. Lantz's Sparrow-Hawk.

I have had the pleasure of examining an immature male specimen in the Museum at Paris of this the most normal of the Madagascar Sparrow-Hawks, which was originally described and figured by M. Jules Verreaux (Rev. Zool. 1866, pp. 353–355, pl. xviii.), and since by MM. Schlegel and Pollen (*op. cit.* p. 35, pl. xiii.). It appears to have hitherto been found in Madagascar only.

11. Accipiter moreli (Pollen). Morel's Sparrow-Hawk.

Of this Hawk, which was obtained by M. Lantz on the east coast of Madagascar, the Museum of the Jardin des Plantes contains two specimens—an adult male from Madagascar, and an immature female from Mayotte. It is figured by MM. Schlegel and Pollen (pl. xiii. fig. 3). M. Jules Verreaux informs me that he considers the *Nisus polleni* of M. Grandidier (Rev. Zool. 1867, p. 85) to be identical with *A. moreli*.

12. Accipiter brutus (Pollen). Mayotte Sparrow-Hawk.

This small species appears to be confined to the island of Mayotte; the only examples of it that I have seen are, one in the Norwich Museum, received in exchange from the Museum at Leyden, and one in the Museum of the Jardin des Plantes. It is described and figured by MM. Schlegel and Pollen (*op. cit.* p. 38, pl. xii. fig. 2).

13. HALIAETUS VOCIFEROIDES, Des Murs. Madagascar Sea-Eagle.

After examining three examples of this Eagle preserved in the Museum of the Jardin des Plantes (one of them having lived, as I am informed by M. Jules Verreaux, for five years in the adjoining menagerie), I concur in the opinion of MM. Des Murs and Verreaux, and also in that of MM. Schlegel and Pollen, that it is a good and distinct species, which, I think, fills a place intermediate between *H. vocifer* and *H. macæi.* It has been figured by M. Des Murs in his 'Iconographie' (pl. vii.) and also by MM. Schlegel and Pollen (*op. cit.* pl. xv.)—by the two latter under the name of *H. vociferator*, an alteration of nomenclature for which I am unable to account.

I may add that some years ago Mr. Edward Newton gave to the Norwich Museum the head of a Sea-Eagle which had been killed in Mauritius. It is probably to be referred to the present species, which accordingly may be regarded as an accidental visitor to that island.

14. BUTEO BRACHYPTERUS, Von Pelzeln. Madagascar Buzzard.

Some interesting details of the habits of this species, which was figured in the former series of 'The Ibis' (1862, pl. viii.), are given by MM. Schlegel and Pollen (*op. cit.* p. 45), from the observations of the gentleman last named. It appears to be found only in Madagascar.

15. MILVUS ÆGYPTIUS (Gmel.). Yellow-billed Kite.

This Kite is frequent in Madagascar, and MM. Schlegel and Pollen (*op. cit.* p. 44) mention that it is also very common in the island of Mayotte. It occurs as well in Joanna, where it was met with by the late Dr. Dickerson, as recorded in 'The Ibis' for 1864 (p. 298).

16. MILVUS MIGRANS (Boddaert). Black Kite.

This Kite also occurs in Madagascar. An example killed on the Hivondrona, 8th September 1862 (Ibis, 1863, p. 337), by Mr. Edward Newton, was presented by him to the Norwich Museum; and his and his brother's collection contains a second specimen—a nestling, but nearly full-fledged, obtained at Pomony in November 1863.

17. Baza madagascariensis (A. Smith). Madagascar Pern.

This species is figured by MM. Schlegel and Pollen (*op. cit.* pl. xvi.); but it seems to me that the plumage in which it is there represented is immature, and that the bird in its adult dress has not yet been obtained. I am not disposed to concur in an opinion expressed to me by M. Jules Verreaux, that, when the adult of the Madagascar Pern is procured, it will prove to be specifically identical with the African *B. cuculoides*; for in the first the bill and feet are decidedly larger. I formerly thought (*cf.* Ibis, 1868, p. 143) that the Madagascar bird might be distinguished from that of Africa by its broader rectrices; but I find, on examination of the specimens in the Paris Museum, that this is not a constant character, and therefore reliance must not be placed on it.

18. Pernis apivorus (Linn.). European Honey-Pern.

The British Museum contains a specimen of a *Pernis* which formed part of the collection of Sir Andrew Smith, and is labelled as having been procured in Madagascar. I believe this bird to be an immature example of *P. apivorus*, as it only differs (so far as I can perceive) from the ordinary appearance of that species in its immature dress in having a somewhat unusually elongated and attenuated upper mandible. This, however, I do not regard as a sufficient specific distinction, as I have observed a difference in the comparative robustness of the bill in various European examples of *P. apivorus*, and as the bill in this species is, as a rule, considerably less robust than in *P. cristatus*.

The description of *Pernis madagascariensis*, given by Sir. A. Smith (S. Afr. Q. Journ. 1834, p. 285), appears to me not to refer to the specimen in the British Museum, but to an example of the species I have previously mentioned under the name of *Baza madagascariensis*.

19. Circus maillardi, Verreaux. Maillard's Harrier.

This Harrier was first described in M. Jules Verreaux's notes to M. Maillard's work on Réunion, before mentioned (pp. 160, 161), and both sexes of it were figured in 'The Ibis' for 1863

(p. 163, pl. iv.). It is a native of Réunion; but an adult male example was also obtained by Dr. Dickerson in Joanna (Ibis, 1864, p. 298), which is preserved in the Norwich Museum, where is also deposited a second adult male from the same locality, as well as a female and a young male procured in Réunion, and presented by Mr. and Mrs. Felix Bedingfeld. The Paris Museum contains several specimens from Réunion, one of which is a nestling.

20. Circus macrosceles, A. Newton. Long-legged Harrier.

So far as I am aware, this is the only species of Harrier which has been ascertained to exist in Madagascar; and the type-specimen, still unique, is preserved in the Norwich Museum, to which it was presented by its discoverer, Mr. Edward Newton, who shot it in 1862, during his second visit to that island (P. Z. S. 1863, p. 180; Ibis, 1863, p. 337). This example, which was ascertained by dissection to be a male, has not yet been figured, as it is apparently in immature plumage; but its specific distinctness is manifest from the following table of dimensions, showing how considerably it exceeds, especially in the length of the tarsus, the males of the Réunion *C. maillardi* and the South-African *C. ranivorus,* which latter species has been supposed by M. Verreaux also to occur in Madagascar (Hartlaub, Orn. Beitr. Faun. Madag. p. 24):—

	Long. tot.	Alæ.	Caudæ.	Tarsi.	Dig. med. c. ung.
C. macrosceles, ♂	22·75	plus quam 15	10	4	2·75
C. maillardi, ♂	21·25	14	8·5	2·9	2·75
C. ranivorus, ♂	19·25	14·75	9·7	3	2·25

The wing of *C. macrosceles,* though in the type-specimen only measuring 15 inches from the carpal joint to the tip, is in fact somewhat longer, the point of the wing in this example having been considerably abraded.

21. Polyboroides radiatus (Scop.). Madagascar Gymnogene.

The adult birds of this species, which, so far as I know, is only found in Madagascar, always differ from those of the nearly allied African *P. typicus,* A. Smith, in the paler coloration of the upper surface, and still more remarkably in the greater width of the white bands which intervene between the transverse black bars of the abdomen.

22. Strix flammea, Linnæus. Barn-Owl.

Madagascar specimens of this bird are, like those of South and West Africa—though not perhaps to the same extent, more spotted on the lower surface of the body and wings than is the case with European examples. This difference has caused the South- and West-African race to be described as specifically distinct, and to receive the name of *S. poensis*, Fraser. The European, Madagascar, and South-African races appear to me to be hardly separable, and I think they may all three be correctly included under the name of *S. flammea**.

23. Scops rutilus, Pucheran. Madagascar Scops-Owl.

MM. Schlegel and Pollen (*op. cit.* pp. 48, 49) well remark that this bird exhibits two distinct liveries, a rufous and a grey, from the former of which Dr. Pucheran derived the specific name he applied to it (Rev. Zool. 1849, p. 29; Arch. Mus. iv. p. 326, pl. xxii.); but they also identify it with *S. menadensis*, Quoy and Gaimard, of Celebes, from which indeed it seems to differ only in its somewhat larger size; and whether this is sufficient ground for specific distinction in the present instance may perhaps be considered somewhat doubtful.

I have had the opportunity of examining specimens of both forms in the Museum of the Jardin des Plantes, and find that *four* examples in that collection from Celebes vary from 5·5 to 6 inches in the length of the wing, measured from the carpal joint to the tip of the longest primary, and in the tarsus from 1 to 1·15 inch, while *five* Madagascar specimens in the same collection vary in the wing from 6 to 6·8 inches, and in the tarsus from 1·25 to 1·5 inch.

I therefore think that *S. rutilus* of Madagascar is in fact only a larger local race of *S. menadensis*, but that, as such, it may be conveniently and legitimately distinguished. The *Scops madagascariensis* of M. Grandidier (Rev. Zool. 1867, pp. 85, 86) was subsequently shown by him to be founded on *S. rutilus* in brown livery (*tom. cit.* pp. 255, 321).

---

* [The breeding-habits of the Madagascar *Strix* differ considerably from those of the European bird, as may be seen by Mr. Caldwell's observations (Ibis, 1863, pp. 339, 340); and its eggs are very decidedly larger, the average of a dozen examples measuring 1·755 in. by 1·311 in., whilst that of a series of seventeen British Barn-Owl's eggs is only 1·622 in. by 1·223 in.—Ed.]

24. NINOX MADAGASCARIENSIS, Bonap. Madagascar Hairy-footed Owl.

Of this Owl I have seen but one example, that contained in the Museum of the Jardin des Plantes; and by the kindness of M. Verreaux I had the opportunity of comparing it with other Owls of the genus from various localities in the same collection. Of these the Madagascar specimen agrees most nearly with an example of *N. hirsuta,* sent from Nepal by Mr. Hodgson, and indeed only differs therefrom in having the dark spots on the breast and abdomen more clearly defined and of a more distinctly guttate shape. Whether this peculiarity is sufficiently important and constant to entitle the Madagascar form to specific recognition can only be decided by the comparison of a series of specimens from the two countries; and I leave the question for the present as open to further investigation whenever the needful materials may be available for the purpose.

25. ATHENE SUPERCILIARIS (Vieillot). Sonnerat's Owl.

MM. Schlegel and Pollen consider the bird they have described (*op. cit.* pp. 49–51, pl. xvii.) under the name of *Noctua polleni* to be distinct from, though nearly related to the *Strix superciliaris* of Vieillot (N. Dict. H. N. vii. p. 33); but having in company with M. Verreaux compared Vieillot's type-specimen now in the Paris Museum with a specimen recently brought from Madagascar by M. Grandidier, which is in the same collection, they appear to me to be specifically identical, and I agree with M. Verreaux in regarding *Noctua polleni* as a synonym of *A. superciliaris.* The type of this last is destitute of any memorandum as to the locality whence it was procured; and being an old specimen, it is of course in less perfect preservation than M. Grandidier's example; it is nevertheless quite perfect enough for the purpose of comparison.

26. OTUS MADAGASCARIENSIS, A. Smith. Madagascar Long-eared Owl.

MM. Schlegel and Pollen (*op. cit.* p. 51) follow Dr. Hartlaub

(Orn. Beitr. Faun. Madag. p. 23) in referring this well-marked species to the genus *Bubo*; but it unquestionably belongs to *Otus*.

M. Pollen states (*loc. cit.*) that he saw a still larger Horned Owl in Madagascar, which he mentions in connexion with this species, but he unfortunately did not succeed in obtaining a specimen of it.

I may in conclusion add that, in company with M. Verreaux, I have vainly searched in the Museum of the Jardin des Plantes for a specimen of *Melierax musicus* mentioned by Dr. Hartlaub (Orn. Beitr. Faun. Madag. p. 19) as having been procured in Madagascar and contained in that collection. As no examples of that species appear now to exist there, except such as have been obtained in South Africa, it seems probable that some accidental error has occurred in Dr. Hartlaub's remark on this subject.

XLII.—*Letters, Announcements, &c.*

The following letters addressed "To the Editor of 'The Ibis'" have been received:—

Sir,—Some of the habits of the Red-wattled Lapwing of India (*Lobivanellus goensis*) are so curious that, even if generally known to your readers, they may bear repetition, while the singular places selected by it for breeding appear to me not to have been mentioned by any one.

The judge's court-house at Manipurì is a large building with a terrace-roof of plaster beaten flat. Beneath it are also the courts of several other officers; and it is frequented by from four to five hundred people daily. A broad ladder leads to the top of the building, which is surrounded by trees and adjoins a large swampy barren piece of land such as the Lapwing loves.

While sitting in court I have often heard Lapwings making a great outcry; but I never guessed the cause, until, on inquiry, I found that, for the last three or four years at least, a pair had selected the bare terrace-roof to breed. They always chose the same spot for their nest—a little heap of lime rubbish about a couple of feet across; and in a very slight hollow in the top of this I found two of their eggs, which almost exactly resemble those of their English namesake. This habit is the more strange, as the Kites (*Milvus govinda*) generally succeed in carrying off their newly-hatched young. I ordered the birds not to be disturbed, and watched them with some curiosity; for I had thought that they always frequented the most lonely and barren places for the purpose of breeding.

On July 1st, 1865, I went up the ladder to the top of the court-house, peeped quietly over the parapet, and saw the Lapwing sitting on her two eggs. Gently she slipped off and crept lowly along for two or three yards, when she lifted herself up, and, flying slowly, alighted a little lower, on the next ledge, pretending to think I had not seen her two eggs, exposed as they were on the heap of mortar. On July 3rd, when the heat on the roof was so intense that one could scarcely bear to touch the plaster, the eggs were hatched; but on the 6th, when sitting in court in the afternoon, I heard a tremendous outcry of the parents, and sending to the roof I found that the Kites had swooped down and carried off the chicks. This occurs again and again, and yet the birds persist in laying in the same place.

On July 9th, 1866, I happened to go to the roof of my own house, which is flat and terraced like that of the court-house. There I saw four eggs of this Lapwing lying on the smooth plaster in the middle of the terrace. There was no trace of a nest, save a curious line of little bits of plaster, forming an irregular circle six or eight inches in diameter; but the pieces collected were not numerous. My man suggested that they were placed to prevent the eggs rolling about with the wind in the parents' absence; and this seems to be very likely. These eggs were never hatched, although the parents were most attentive, but were, one by one, carried off by the Crows (*Corvus culminatus*), which are ever on the look-out for the eggs of other birds.

Again, one day in July 1867, I was with your correspondents Mr. W. E. Brooks and Mr. Allan Hume on a trolly on the railway, when the former pointed out many Lapwings' nests on the metalling of the road, close to the very rails on which trains were constantly running. The line is ballasted with broken limestone, the smaller pieces of which the birds seem to have brought together, and with them to have formed a nest, if it can be so called. As the trolly came up, each bird slipped off her eggs, and, having gone a little way, stood still, staring at us to attract our attention. Four nests were so found within two miles.

This species is very common throughout the whole of the North-west Provinces. It is ordinarily known to Europeans as the "Peewit," and, as mentioned by Dr. Jerdon (B. Ind. iii. p. 649), has many nicknames derived from its cry. The natives have many stories about it; that of its sleeping on its back to support the sky, which once fell on one of its ancestors, quoted by the Doctor as being current in Southern India, is equally so in the North-west*. It would be curious to trace the origin of this belief.

I remain, &c.,

C. HORNE.

Upper Norwood, June 5, 1869.

Agra, June 12, 1869.

SIR,—Since I last wrote, another novelty has come to hand. My friend Colonel Delme-Ratcliffe wrote from Attock that he had two Grosbeaks, not included in Dr. Jerdon's work, and that he could not make them out. He has lately sent them to me to name; and what should appear but our old familiar friend the Hawfinch (*Coccothraustes vulgaris*, Steph.), whose nest and eggs formed the especial treasure of my boyhood's collection! The Hawfinch has been recorded from China and Japan, but never before from India. Attock, where these birds were procured (early in May, I believe), is our north-western frontier post.

I am, &c.,

A. O. HUME.

Etawah, July 12, 1869.

SIR,—A friend of mine, Mr. Buck, of Cawnpore, has just returned from a trip to the Sutlej valley, and at two places he procured a specimen of *Reguloides proregulus*, a species I have never shot in this neighbourhood or at Cawnpore. This bird, as Dr. Jerdon observes, has a "canary-yellow" rump, or a broad light greenish-yellow band across the lower part of the back, which contrasts sharply with the general olive-green of the back and upper surface. The termination of the olive of the back is very abrupt, and not at all shaded into the yellow of the rump, as is shown in the woodcut in Yarrell's 'British Birds' (3rd ed. i. p. 380), where a figure of this species is given to illustrate another one (*R. superciliosus*), which has been so often confounded with it. The upper surface, from the head to the rump, is darker olive in *R. proregulus* than in *R. viridipennis*; and in the former the axillaries and under wing-coverts are very bright primrose-yellow, while the same parts in the latter are emphatically pale—positive yellow occurring at the ridge of the wings only. In *R. proregulus*, the outer webs of the tail-feathers are of a much brighter yellowish-green; but the wings in the two birds are very much alike; so are the heads, except that, as I have already said, that of *R. proregulus* is the darkest above. In this last the bill is somewhat stronger than in the other species, and the upper mandible and tip of the lower are very much darker in colour, being quite of a blackish-brown; its legs and feet are also darker. The occipital streak in both is very conspicuous, and of the same dull yellow colour; but the superciliary streaks are of a brighter and clearer yellow in most of my specimens of *R. viridipennis* than in the two of *R. proregulus* which I have examined. Dr. Jerdon (B. Ind. ii. p. 198) remarks of *R. viridipennis* that it is readily distinguished from "*R. chloronotus*," *i. e. R. proregulus* (*cf.* Ibis, 1867, p. 26), "by the rump being concolorous with the back." This I have not found, as a rule, to be the case, the rump being much lighter in colour, but gradually shading into the darker hue of the back. In one specimen that I have, the rump is of the same colour as the back; but all the others have light rumps, though not of a positive yellow.

---

* [It is also told of this species, or the allied *Lobivanellus atronuchalis*, in Burmah. *Cf.* Ibis, 1868, p. 390.—ED.]

The places where Mr. Buck procured *R. proregulus* are Rogee and Chenee. He did not succeed in finding its nest. The other species of *Reguloides* met with by him were *R. occipitalis* and *R. trochiloides*, the latter being the most numerous. The former has a stouter bill than the latter, and is generally paler in colour, with indistinct wing-bands. The only nest found was one of *R. occipitalis*, built not on the ground, but under the rafter of a house and inside one of the rooms! The bird had young in the beginning of June. Many young birds were observed, principally of *R. trochiloides*. I was disappointed at his not meeting with *R. superciliosus*; but it is a species easily overlooked until one is familiar with its call-note; and then it can be procured in hundreds, though, active and restless as it is, it hides very much in the thick foliage of large trees. It is such an exceedingly common bird in the plains, that wherever it does breed it must do so plentifully. Perhaps for this purpose it goes more in the direction of Nepal.

Mr. Buck brought several other birds, and took about a dozen kinds of eggs,—those of *Francolinus vulgaris, Emberiza fucata*, and *E. cia* among others. He has left with me a Sparrow, shot high up on one of the hills, which I cannot find in Dr. Jerdon's book. *Carpodacus erythrinus* he found close under the snows. I wish I could get away, some spring and summer, to the same district; what a collection I would make!

I am, &c.,

W. E. Brooks.

South-African Museum, Cape Town,
July 27th, 1869.

Sir,—In 'The Ibis' for 1866 (p. 209), I see a notice of Herr von Pelzeln's remarks on the variation in the plumage of certain birds, and I am induced to place on record an example of melanism which has come on under my very eyes.

I have had in my aviary for some time several Java Sparrows, *Padda oryzivora* (Linn.), which have bred with me. One of these birds, I believe the oldest, about a year or eighteen months ago assumed, on moulting, a very decided dark tinge over the whole plumage; but the white streaks totally disappeared, and the whole head became black. This bird is now failing in health, and frequently drops from its perch, which it can with difficulty regain. I believe that old age, and the weakness arising therefrom, has caused the change of colour. Some time ago I saw a pair of similar birds in the possession of a gentleman in this town: on asking after them lately, I was told that they had died, of no particular disease.

In the same aviary with my bird is an example of the Australian *Poephila cincta*, Gould, which I brought with me from Melbourne in 1862. This shows unmistakable signs of having arrived at a good old age: the whole of its plumage is turning to a dull sooty colour, especially the light grey of the head, which is becoming a darkish blue-black.

A neighbour had an English Blackbird, *Turdus merula*, for a number of years. He came one day to tell me that the bird, which had been moulting, was putting on a pied coat instead of a black one. Feeling convinced that age was the cause, I asked to have the specimen as soon as it was dead. Within a month I had it mounted in the Museum.

I remember seeing a very curious Parrot in Ceylon, the property of the late Sir J. E. Tennent. It was an example of *Palæornis torquata*, of a bright yellow, except the red ring round the neck and the black chin; these were also changed, but I forget to what colours.

In my 'Notes on the Ornithology of Ceylon,' you will find mentioned (Ann. Mag. N. H. 2nd ser. xiii. p. 450) a curious variety of *Centropus rufipennis*, Illig. (*C. philippensis*, Cuv.), which I shot at Port Pedro, and should still be in the British Museum. This, I suppose, would be termed an "erythrismus."

In this Museum we have some singular examples, which I will enumerate:—a *Fulica cristata*, pure white; a *Francolinus afer*, having large white patches throughout; and another specimen of the same, in which all the characteristic markings are retained, but changed in colour, and of which I can give the best idea by saying that it is like an English Partridge seen through spectacles of a neutral tint; a *Coturnix communis*, also very similar to the last; a *Columba arquatrix*, mottled with pure white; a Cockatoo, a species of *Licmetis*, from King George's Sound, not figured in Gould's 'Birds of Australia,' which was for a great number of years in the possession of an old lady in this town, and was, as I am informed, originally white, but latterly became, at each succeeding moult (I can vouch for two myself), darker and darker (when it finally died of old age, it looked as if it had been drawn down a very dirty chimney); three Larks, *Megalophonus cinereus,* of a dark cream-coloured white, the heads and shoulder-patches still red, but much paled; a *Pycnonotus capensis,* changed to a smoky-white, the wing- and tail-quills being lightest; a *Crithagra sulphurata,* nearly all bright yellow; a female *Chalcites klaasi,* which is a most interesting example, all the brown bars being changed to white, the brilliant green bars remaining; two specimens of *Aptenodytes chrysocome,* white, more or less marked with black, but with the bright yellow crests unchanged; a *Spheniscus demersus* (the only one I ever saw thus) having the normal black markings, but the blue back changed to white, finely and sparingly mottled with black; finally, two examples of *Procellaria gigantea,* of the permanent race which occurs to the north-west, as I have before noted (B. S. Afr. p. 360), extending occasionally to Australia according to Dr. Bennett*—these have a few sooty feathers occurring here and there.

Now what I deduce from these observations (and I could name many more) is, that in whatever manner the change is brought about (and I believe it to be caused by weakness), the general rule is:—that black or dark blue changes to white, and white to black; green to yellow, and red to light brown; reddish-brown to cream-colour, and blackish-brown to very pale brown. Exceptions, of course, will be found; but I look upon "albinismus," "melanismus," and "erythrismus" as one and the same thing, and we ought to have a comprehensive name for it.

I have never sought for instances of albinism for this Museum, and indeed have rejected many specimens of it; but here are no less than *seventeen* enumerated; and if this were not a purely ornithological journal, I could mention nearly as many similar cases from the class *Mammalia.*

I am, &c.,

E. L. Layard.

---

* [*Qu.* 'Gatherings of a Naturalist,' pp. 76, 77?—Ed.]

August, 1869.

Sir,—Having been recently engaged in a study of the African Swallows, the results of which I hope shortly to lay before your readers, I discovered in the collection of Viscount Walden a specimen of that rare species *Hirundo nigrita*, G. R. Gray (Gen. B. pl. xx.) (*Atticora nigrita*, Hartl. Orn. Westafr. p. 25). This I feel sure must be regarded as the type of a new genus, for which I beg leave to propose the name of *Waldenia*, as an acknowledgment of the services rendered to ornithology by Lord Walden.

WALDENIA, gen. nov.

Rostrum robustum, elongatum, apicem versus compressum, dertro decurvato, gonyde vix ascendente, setis brevibus ad basin narium paucis; naribus oblongatis margine superiore membrana obtectis.

Alæ longæ, remige primo quartum æquante, secundo longissimo, tertio quam primus longiore.

Cauda brevis, rectricibus duodecim, externarum pogonio interno graduatim apicem versus attenuato, externis paulo productis.

Pedes robusti, tarsis scutellatis digitis lateralibus æquilongis, hallucem vix æquantibus.

Typus, WALDENIA NIGRITA (G. R. Gray).

The only African genera at all nearly allied to *Waldenia* are *Atticora* and *Hirundo*; but *Atticora* has round nostrils, and no overhanging membrane; *Hirundo* has this membrane, but then the first primary is the longest, whereas in *Waldenia* the second is. This fact, in connexion with the large robust feet, seems to show that the habits of the latter are more arboreal than aerial.

I am, &c., R. B. SHARPE.

Jardine Hall, 11 September, 1869.

Sir,—I have just been reading Mr. Harting's interesting paper on *Anarhynchus frontalis* in the last number of 'The Ibis' (pp. 304–310).

Some time since, I received from new Zealand *two* specimens of this bird, in both of which the bill is turned to the *right*, similarly to that figured in the woodcut. My own opinion is, that the curve to the right is perfectly regular, and not a malformation, and that it will probably be found subservient to some part of the natural economy of the species, of which we are yet ignorant. In my collection I have placed the bird between *Strepsilas* and *Charadrius,* taking *C. hiaticula* as typical of the last; but I must say that I have not yet closely examined them.

Yours, &c., WM. JARDINE.

12th September 1869.

SIR,—Professor Huxley has submitted to my examination two skins of "a species of *Campanero*" obtained by Mr. Charles B. Brown "near the Arapu river, one day's journey from Mount Roraima," in Demerara. They turn out to belong to *Chasmorhynchus variegatus,* and thus prove that the Venezuelan species, concerning which I have before written (Ibis, 1866, p. 406), extends into the highlands of British Guiana—an interesting fact in geographical distribution. In a letter accompanying the specimens Mr. Brown says:—"At midday this bird utters its cry, which resembles the sound produced by the blow of a hammer, and is not unlike the cry of the *Campanero* or Bell-bird, only harsher. The eye is large and black; and the throat is capable of great expansion, by means of three or four muscles."

I am, &c., P. L. SCLATER.

14th September, 1869.

SIR,—During a recent visit to the Museum of the Jardin des Plantes at Paris, I had an opportunity of examining the Owl which was brought from Abyssinia by MM. Petit and Dillon and was subsequently described and figured by MM. Des Murs and Prévost (Rev. Zool. 1846, p. 242, and 'Voyage en Abyssinie,' pl. iii.) as the type of their *Bubo dilloni.* I find this species to be identical with that subsequently described and figured by Sir Andrew Smith (Ill. Zool. S. Afr. ii. pl. 70) under the name of *B. capensis*; but as this name was probably founded on the *Strix capensis* of Daudin (Tr. Orn. ii. p. 209), published in 1800, it ought in that case to take precedence, and *B. dilloni* sink into a synonym. The example obtained by MM. Petit and Dillon is the only one I have ever seen from any locality north of the equator.

M. Charles Marin, the intelligent taxidermist of the Museum at Lille, was so good as to show me yesterday a very fine adult female of *Pelecanus onocrotalus,* which he had just mounted for a gentleman who has a collection of stuffed birds near that town. This Pelican was shot on the 31st of August last in the marsh of Wingle, near Courrière, in the Pas de Calais; and although the locality is at a considerable distance from the sea, the stomach of the bird contained shrimps and small crabs in an almost entire state, as well as a few small fish. As the specimen showed no marks of having been kept in confinement, I think its occurrence so far northwards is worthy of record.

Many years since, the late Mr. Frederic Strange (whose accuracy as an observer of the habits of Australian and New-Zealand birds is still remembered by his friends) informed me that the easiest way of catching the Weka-Rail (*Ocydromus australis*) was for the fowler, after stationing himself very quietly in one of the haunts of this species, to wait for the appearance of a bird, and then to hold a piece of bright red cloth near to the ground in its sight. It would immediately run up, and approach so close to the cloth that the fowler, by making a quick stroke with his right hand, could easily capture it while its attention was absorbed by the red cloth in his left. This account so singularly resembles that given by Hoffmann of the mode of capturing the extinct Mauritian bird, which is quoted in M. Alphonse Milne-Edwards's most interesting paper on *Aphanapteryx imperialis* (*suprà,* p. 258), that it seems desirous that so curious a coincidence of habit between the two birds should not be lost sight of.

I am, &c., J. H. Gurney.

London, 27 Sept. 1869.

Sir,—I am returned to England from China, by way of Japan, California, and the Pacific Railroad, and am fortunate enough to find that most of the specimens collected in the island of Hainan (Ibis, 1868, p. 353) are also arrived safely. I am now working at the birds, and hope to be able to contribute a paper upon them to your next number. I have some interesting novelties.

I am, &c., Robert Swinhoe.

We believe that we are not abusing the confidence of Mr. George Robert Gray when we announce, as we do with the greatest pleasure, that that veteran ornithologist has in the press a 'Hand-List of Birds,' the first part of which is expected to appear shortly. We understand that it is intended to include the scientific name of every species of bird which is to be found recorded, and references to the best figures that have been given of the different species. It will be at once evident that the labour of preparing such a work must of necessity be enormous; and accordingly no one will be surprised at learning that the spare time of the author has been entirely devoted to it for many years. When it is finished, not the least part of its utility will be that it will form a catalogue for every ornithological collection or Museum in the world.

More than two years ago we mentioned (Ibis, 1866, p. 214) that our friend Mr. D. G. Elliot had a Monograph of the *Phasianidæ* in preparation. Various causes have hitherto hindered him from bringing this out—chief among them being that his time was fully occupied by the publication of his 'Birds of North America,' which is now completed, and he at length returns to his former design. We have seen the series of drawings by Mr. Wolf which have been executed for this undertaking, and we can truthfully declare that they are among the best productions of that great master.

We regret extremely that the former and the present number of 'The Ibis' should appear without our customary "Notices of Recent Ornithological Publications"—the more so as the past six months have been unusually prolific in works bearing on our study. Such notices, however, could only have been inserted to the exclusion of original matter which we are sure our readers will join with us in regarding as of greater importance; and we trust in our number for next January to clear off the arrears—heavy though they be.

INDEX.

Abrornis albosuperciliaris, 166.
—— schisticeps, 166.
—— xanthoschistus, 56.
Acanthylis caudacuta, 47, 405.
Accipiter bicolor, 317, 319.
—— brevipes, 356.
—— brutus, 448.
—— franciscæ, 447, 448.
—— gabar, 71.
—— gularis, 356.
—— lantzi, 448.
—— madagascariensis, 447, 448.
—— melanoschistus, 356.
—— moreli, 448.
—— nisus, 154, 356.
—— pileatus, 317, 319.
—— polyzonoides, 288.
—— tachiro, 363.
—— virgatus, 356.
Aceros nipalensis, 156.
Acridotheres fuscus, 58.
—— ginginianus, 15.
—— tristis, 17, 52, 58.
Acrocephalus agricolus, 55, 354.
Actinodura egertoni, 164.
—— nipalensis, 164.
Actiturus bartramius, 247.
Aedon familiaris, 84, 85.
—— galactodes, 79, 82, 84, 86, 186, 355.
—— leucoptera, 86.
—— minor, 84, 85.
—— paena, 78.
Ægialitis cantianus, 182, 305.
—— curonicus, 154.
—— hiaticula, 309.
—— kittlitzi, 300.
—— melodus, 305.
—— minor, 347.
—— nivosus, 305.
Ægithaliscus erythrocephalus, 58.
Ægithalus pendulinus, 392.
Æpyornis maxima, 222.
Æstrelata arminjoniana, 62, 63, 66.
—— aterrima, 66.
—— bulweri, 66.
—— caribbæa, 66.
—— cooki, 64, 66.
—— defilippiana, 63, 64, 66.
—— desolata, 64, 66.
—— gavia, 66.
—— gouldi, 351.
—— grisea, 66.
—— gularis, 64, 65, 66.
—— hæsitata, 66, 352.
—— incerta, 66.
—— lessoni, 66.
—— macroptera, 66.
—— magentæ, 61, 66.
—— mollis, 64, 65, 66.
—— neglecta, 66.
—— parvirostris, 66.
—— rostrata, 66.
—— solandri, 66.
—— trinitatis, 65, 66.
Æthopyga gouldiæ, 419.
—— miles, 159, 419.
—— nipalensis, 159.
—— saturata, 159.
Agnopterus laurillardi, 220.
Agrodroma sordida, 57, 120.
Alauda arborea, 171.
—— arvensis, 60, 171, 355.
—— brachydactyla, 181.
—— calandra, 173, 185.
—— chuana, 78.
—— cristata, 173, 185.
—— gulgula, 59.
—— pispoletta, 313.
—— ruficapilla, 435.
—— ruficeps, 435.
Alauda spinoletta, 213.
—— spleniata, 434, 435.
Alaudula pispoletta, 213.
—— raytal, 213.
Alca arctica, 360.
—— impennis, 229, 358, 359, 360, 393.
—— pica, 360.
—— torda, 360.
Alcedo albiventris, 277.
—— asiatica, 287.
—— bengalensis, 156, 327, 409.
—— cristata, 279, 280.
—— cyanostigma, 280.
—— ispida, 172.
—— malimbica, 279.
—— meninting, 281.
—— natalensis, 281.
—— picturata, 281, 282.
—— quadribrachys, 279, 281, 283.
—— semicærulea, 277.
—— semitorquata, 283, 364.
—— tribrachys, 281.
—— tridactyla, 215.
Alcurus striatus, 165.
Alcyone azurea, 281.
—— coronata, 279.
Allotrius ænobarbus, 212.
—— xanthochlorus, 213.
Alseonax ferrugineus, 161.
Amadina alario, 370.
Amaurospiza concolor, 313.
Anæretes parulus, 283.
Anarhynchus albifrons, 305.
—— frontalis, 304, 309, 461.
Anas acuta, 251.
—— boschas, 173, 397.
—— crecca, 173.
—— gibberifrons, 380.
—— gracilis, 41, 42, 380.
—— marmorata, 171.

Anas strepera, 76, 77.
Anastomus lamelligerus, 302.
Anser albifrons, 226.
—— brachyrhynchus, 21, 226, 254.
—— erythropus, 226, 395.
—— ferus, 22, 127.
—— phœnicopus, 21.
—— segetum, 226, 395.
Anthipes moniliger, 162.
Anthropoides stanleyanus, 300, 376.
Anthus aquaticus, 213, 355.
—— arboreus, 230.
—— brachyurus, 437.
—— caffer, 368, 437.
—— calthropæ, 437.
—— capensis, 367.
—— chloris, 368, 437.
—— gouldi, 437.
—— leucophrys, 368.
—— obscurus, 246.
—— pratensis, 172, 355.
—— richardi, 120, 392.
—— rufescens, 172, 392.
—— sordidus, 367, 437.
Aphanapteryx broeckii, 275.
—— imperialis, 256, 271, 275, 463.
Aptenodytes chrysocome, 378, 460.
—— pennanti, 284.
Apterornis bonasia, 274.
—— cærulescens, 272.
—— solitaria, 272.
Aquila bonellii, 171, 173, 174, 394, 399.
—— chrysaetus, 174, 199, 245, 400.
—— fulvescens, 45.
—— heliaca, 180, 199, 400.
—— maritima, 252.
—— nævia, 201.
—— nævioides, 399, 401.
—— pennata, 171, 180, 203, 361.
—— senegalla, 70.
—— verreauxi, 70.
Arachnechthra asiatica, 47, 421.
Arachnothera flavigastra, 221.
—— magna, 159, 210, 418.
—— pusilla, 221.
Aramides cayennensis, 270.
Arboricola torqueola, 170.
Archibuteo lagopus, 203.
Ardea alba, 181.
—— atricapilla, 194.
—— atricollis, 376.
—— bubulcus, 251.
—— cinerea, 376.
—— coromandra, 181.
—— egretta, 284.
—— garzetta, 181.
—— goliath, 376.
—— gutturalis, 387.
—— perplexa, 220.
—— purpurea, 154, 181, 183, 238, 302, 376.
—— ralloides, 181.
Ardetta flavirostris, 388.
—— minuta, 154, 300.
—— pusilla, 300.
—— sturmi, 387.
Artamia bernieri, 220.
—— leucocephala, 220.
Artamus fuscus, 161.
Asio brachyotus, 148.
—— capensis, 148.
Astur gabar, 252.
—— melanoleucus, 387.
—— palumbarius, 153, 154.
Asturina magnirostris, 317, 318.
—— nitida, 317, 318.
—— plagiata, 317, 318.
—— ruficauda, 317, 318.
Athene noctua, 204.
—— superciliaris, 453.
Atticora holomelas, 72.
—— nigrita, 461.

Balearica regulorum, 376.
Barbatula duchaillui, 193.
—— leucolæma, 193.
Basileuterus melanotis, 313.
Baza cuculoides, 450.
—— madagascariensis, 450.
Berenicornis albocristata, 385.
Bernicla leucopsis, 230.
—— ruficollis, 242.
Bessornis humeralis, 78.
—— phœnicurus, 73, 293.
Bhringa remifer, 160.
Bias musicus, 189.
Bolborhynchus luchsi, 225.
Botaurus capensis, 300.
Botaurus stellaris, 181, 301.
Brachypternus aurantius, 2, 415.
Brachyurus angolensis, 187.
Bradypterus brachypterus, 83.
—— cettii, 79, 82.
—— cinnamomeus, 83.
—— layardi, 366.
—— platyurus, 366.
—— sylvaticus, 366.
Brotogerys chrysosema, 225.
—— subcærulea, 225.
Bruchigavia melanorhyncha, 43, 381.
—— scopulina, 43.
Bubo ascalaphus, 395.
—— capensis, 71, 462.
—— fasciolatus, 194.
—— leucostictus, 387.
—— maculosus, 289.
—— maximus, 177, 204, 252, 400.
Buceros abyssinicus, 385.
—— albocristatus, 385.
—— coronatus, 372.
—— erythorhynchus, 296.
Buchanga waldeni, 160.
Bucorax abyssinicus, 385.
Bucorvus abyssinicus, 296.
Budytes auricapillus, 357.
—— calcaratus, 214.
—— cinereocapillus, 357.
—— citreola, 214.
—— citreoloides, 214.
—— flavus, 230, 357.
—— melanocephalus, 357.
—— rayi, 357.
—— viridis, 357.
Buphaga africana, 369.
Buphus coromandus, 347.
Burnesia lepida, 91.
Buteo brachypterus, 449.
—— erythronotus, 284.
—— fuliginosus, 356.
—— jackal, 361.
—— japonicus, 347.
—— lagopus, 245.
—— tachardus, 181.
—— vulgaris, 181, 203, 252.
Butorides atricapillus, 194, 437, 438.
—— javanicus, 238, 437, 438.

Caccabis chukar, 60.
—— petrosa, 395.

Caccabis rufa, 60.
—— saxatilis, 395.
Cacicus microrhynchus, 319.
Cacomantis merulinus, 337.
—— passerinus, 329.
Calamodyta babæcula, 365, 366.
—— bæticata, 365.
—— bæticula, 365, 366.
—— gracilirostris, 365, 366.
—— rufescens, 365, 366.
Calamoherpe cinnamomea, 83.
—— rufescens, 291.
—— strepera, 292.
Calidris arenaria, 226, 307, 308, 429.
Calobates sulphurea, 166.
Camaroptera brevicaudata, 138, 140.
—— caniceps, 141.
—— concolor, 141.
—— olivacea, 140.
—— salvadoræ, 141.
—— tincta, 140.
Campephaga nigra, 117, 189.
—— quiscalina, 189.
—— xanthornoides, 117.
Campethera bennetti, 323.
—— capricorni, 323, 324.
—— chrysura, 297.
—— nivosa, 194.
—— variolosa, 323.
Caprimulgus albonotatus, 155, 405, 406.
—— asiaticus, 406.
—— europæus, 230.
—— macrurus, 406.
—— monticolus, 406.
—— ruficollis, 186.
—— rufigena, 289.
—— smithi, 230.
Cardinalis phœniceus, 110.
Carduelis caniceps, 210.
—— elegans, 172.
Carpodacus erythrinus, 59, 226, 458.
—— githagineus, 152, 153.
Casuarius australis, 348.
—— johnsoni, 348, 349.
Cathartes atratus, 319.
—— aura, 284.
Catharus fuscatus, 312.
—— griseiceps, 312.
Catriscus apicalis, 81.
Centropus ægyptius, 337.
Centropus bengalensis, 336.
—— chlororhynchus, 345.
—— epomidis, 194.
—— francisci, 193, 194.
—— grilli, 331.
—— philippensis, 459.
—— rectunguis, 331.
—— rufipennis, 159, 345, 459.
—— senegalensis, 193, 335, 337.
—— toulou, 337.
—— viridis, 331, 337.
Ceriornis satyra, 169.
Certhia discolor, 160, 424.
—— himalayana, 48, 423.
—— nipalensis, 423.
Certhilauda africana, 435.
—— coronata, 371.
—— desertorum, 435.
—— garrula, 295.
—— salvini, 435.
Ceryle americana, 216.
—— cabanisi, 216.
—— guttata, 72, 282.
—— maxima, 72, 282, 283, 290.
—— rudis, 282, 283, 290, 385.
—— stellata, 283.
Cettia africana, 84.
Ceyx rufidorsa, 216.
—— tridactyla, 216.
Chætops frenatus, 73.
Chætura semicollaris, 109.
Chætusia leucura, 247.
Chalcites klaasi, 460.
—— smaragdinus, 334.
Chalcophaps indica, 169.
Chalybura isauræ, 318.
Charadrius bicinctus, 309.
—— frontalis, 304, 309.
—— hiaticula, 462.
—— longipes, 247, 251.
—— obscurus, 309.
—— pluvialis, 173.
—— tricollaris, 76, 375.
Chasmorhynchus variegatus, 462.
Chaunonotus sabinii, 190.
Chelidon urbica, 174.
Chelidoptera tenebrosa, 337.
Chelidorhynx hypoxantha, 161.
Chenalopex ægyptiacus, 377.
Chera progne, 74.
Chibia hottentota, 161.
Chicquera ruficollis, 288.
Chimarrhornis leucocephala, 166.
Chionis alba, 284.
Chloephaga antarctica, 284.
—— poliocephala, 233.
Chlorœnas subvinacea, 217.
Chlorospiza aldunatii, 285.
—— gayi, 285.
Chordiles virginianus, 126.
Chrysococcyx hodgsoni, 158, 334.
—— smaragdinus, 334.
Chrysocolaptes sultaneus, 413.
Chrysomitris columbiana, 314, 318.
—— mexicana, 314.
—— spinoides, 59.
Chrysonotus intermedius, 415.
—— shorii, 415.
Chrysophlegma flavinucha, 156, 414.
Chrysopicus capricorni, 324.
Chrysoptilus bennetti, 78, 296.
Chrysotis guatemalæ, 225.
Cichloides atrigularis, 124.
Ciconia alba, 174.
Cinclodes patagonicus, 283.
Cinclus aquaticus, 402.
—— asiaticus, 212.
—— melanogaster, 402.
Cinnyris currucaria, 421.
—— talatala, 78.
Circaetus gallicus, 171, 173, 174, 182, 183, 394.
Circus æruginosus, 173, 178.
—— cineraceus, 394, 400.
—— macrosceles, 451.
—— maillardi, 450, 451.
—— pallidus, 400.
—— ranivorus, 451.
Cissa sinensis, 168.
Cisticola brunnescens, 136.
—— cinerascens, 143.
—— clamans, 143.
—— ferruginea, 135, 143.
—— flaveola, 143.
—— iodoptera, 143.
—— lugubris, 143.
—— pachyrhyncha, 143.
—— robusta, 143.

Cisticola ruficeps, 143.
—— rufifrons, 143.
—— schœnicola, 106, 132, 143, 172.
—— tenella, 90.
Cittura cyanotis, 215.
—— sanghirensis, 215.
Clais guimeti, 319.
Clangula histrionica, 254.
Coccothraustes vulgaris, 456.
Coccygus americanus, 335.
Coccystes coromandus, 159, 335.
—— glandarius, 335, 336.
—— hypopinarus, 332.
—— melanoleucus, 47, 418.
—— serratus, 336.
Coccyzus delalandii, 333.
—— minor, 336.
Cochlothraustes delalandii, 337.
Cochoa purpurea, 57, 167.
Colaptes pitius, 283.
Coliostruthus macrurus, 192.
Collocalia affinis, 221.
—— brevirostris, 221.
—— fuciphaga, 221.
—— nidifica, 221.
Collurio ludovicianus, 118.
Columba adfinis, 326.
—— arquatrix, 459.
—— livia, 176, 394.
—— nigrirostris, 317.
—— vinacea, 317.
Conurus lineolatus, 319.
Copsychus saularis, 47, 52.
Coracias affinis, 155, 408.
—— caudata, 364.
—— garrula, 185.
Corethrura ruficollis, 377.
Corvus andamanensis, 221.
—— capensis, 295.
—— corax, 175, 213, 256.
—— culminatus, 6, 58, 168, 221, 455.
—— intermedius, 120.
—— monedula, 181.
—— splendens, 5, 6, 58.
—— tibetanus, 213.
Corydalla richardi, 120.
—— sordida, 437.
Coryllis exilis, 225.
Corythaix macrorhyncha, 193.
Corythaix persa, 193.
Corythornis cæruleocephala, 283.
—— cristata, 280, 283.
—— vintsioides, 280, 283.
Cossypha poensis, 382.
Coturnix communis, 173, 393, 459.
—— histrionica, 75.
—— sinensis, 348.
Cotyle ambrosiaca, 363.
—— fuligula, 436.
—— paludibula, 436, 437.
—— palustris, 436, 437.
—— rupestris, 171, 392, 399, 436.
—— sinensis, 404.
Coua cærulea, 335.
—— cristata, 335.
Crateropus fulvus, 152, 153.
—— hartlaubi, 117.
—— jardinii, 78.
Criniger eximius, 383.
—— flaveolus, 165.
—— ictericus, 382.
—— importunus, 73.
—— leucopleurus, 382.
—— tricolor, 382.
Crithagra africana, 371.
—— butyracea, 75, 295, 371.
—— chrysopyga, 371.
—— flaviventris, 371.
—— selbii, 75, 371.
—— strigilata, 75, 371.
—— sulphurata, 295, 371, 460.
Crotophaga ambulatoria, 327, 336.
—— ani, 336.
—— major, 337.
Cryptolopha cinereocapilla, 49.
Cuculus adfinis, 326.
—— ægyptius, 337.
—— æneus, 337.
—— afer, 337.
—— americanus, 326, 335.
—— ater, 336, 337.
—— auratus, 337.
—— bengalensis, 331, 336.
—— brasiliensis, 326, 335.
—— cæruleus, 335.
—— canorus, 47, 157, 328, 332, 335, 336.
—— capensis, 336.
—— cayanus, 334, 335, 337.
Cuculus ceramensis, 342.
—— cornutus, 326, 335.
—— coromandus, 335.
—— crassirostris, 338.
—— cristatus, 335.
—— cupreus, 337.
—— discolor, 337.
—— dominicensis, 326.
—— dominicus, 326, 334, 335, 337.
—— flaviventris, 337.
—— flavus, 332, 337.
—— gigas, 333, 336.
—— glandarius, 328, 335, 336.
—— guira, 336.
—— himalayanus, 416, 417, 418.
—— honoratus, 327, 335.
—— indicator, 337.
—— indicus, 327, 338.
—— jacobinus, 332, 336.
—— lucidus, 332, 337.
—— maculatus, 331, 336, 340.
—— madagascariensis, 333, 336, 337.
—— melanogaster, 334.
—— melanoleucus, 332, 336.
—— melanorhynchus, 337.
—— merulinus, 337.
—— mexicanus, 336.
—— micropterus, 158.
—— mindanensis, 327, 330, 333, 335, 336.
—— minor, 336.
—— nævius, 333, 335, 336.
—— niger, 327, 328, 335, 337, 338.
—— orientalis, 327, 329, 330, 331, 335, 336, 338, 340, 341, 343, 344.
—— panayanus, 331, 336, 340.
—— paradiseus, 335.
—— persa, 326, 328, 335.
—— philippensis, 337.
—— pica, 332.
—— pisanus, 336.
—— pluvialis, 336.
—— poliocephalus, 157, 158.
—— punctatus, 327, 329, 330, 335, 341, 342, 343, 344.
—— punctulatus, 333, 336.
—— pyrrhocephalus, 337.

Cuculus radiatus, 331,337.
—— ridibundus, 333, 336.
—— scolopaceus, 327, 328, 335, 338.
—— senegalensis, 335.
—— seniculus, 336.
—— septorum, 333.
—— serratus, 332, 336.
—— sinensis, 335.
—— striatus, 157, 221, 418.
—— tahitius, 336.
—— taitiensis, 339, 346.
—— tenebrosus, 337.
—— tenuirostris, 329.
—— tolu, 337.
—— toulou, 337.
—— tranquillus, 337.
—— variegatus, 340.
—— varius, 221, 418.
—— vetula, 335.
—— viridis, 337.
Culicipeta burkii, 166.
Curæus aterrimus, 283.
Curruca famula, 129.
Cursorius bicinctus, 76.
—— burchelli, 376.
—— rufus, 299.
Cutia nipalensis, 167.
—— senegalensis, 299, 375.
Cyanopica cooki, 186.
Cyanops franklini, 157.
Cyclorhis flaviventris, 313, 318.
—— subflavescens, 313.
Cygnus coscoroba, 284.
—— immutabilis, 248.
—— nigricollis, 248.
—— olor, 127, 248, 250.
Cypselus affinis, 47, 405.
—— barbatus, 77.
—— batassiensis, 364.
—— gutturalis, 72, 77.
—— leuconyx, 405.
—— melba, 185, 399, 404.

Dafila caudacuta, 251.
Dendrobates nivosus, 194.
Dendrochelidon coronata, 405.
Dendrocitta frontalis, 168.
—— sinensis, 168.
Dendrœca vieilloti, 313.
Dendromanes atrirostris, 319.
Dendromanes homochrous, 319.
Dendromus capricorni, 324.
—— nivosus, 194.
—— smithi, 297.
Dendrophila frontalis, 425.
Dendropicus goertan, 386.
Dicæum coccineum, 421, 423.
—— chrysorrhœum, 422.
—— cruentatum, 221.
—— minimum, 47, 221, 353
—— trigonostigma, 422.
Dicrurus coracinus, 190.
—— himalayensis, 160.
—— longicaudatus, 48, 160, 353.
—— macrocercus, 12, 48, 160, 347.
—— musicus, 369.
—— waldeni, 353.
Didus broeckii, 275.
—— herberti, 274, 275.
—— ineptus, 227.
Dilophus carunculatus, 74, 294.
Diomedea chlororhyncha, 377.
—— exulans, 284.
—— melanophrys, 377.
Diplopterus nævius, 333, 335.
Dissemurus paradiseus, 335.
Dissodectes zoniventris, 446.
Dolichopterus viator, 219.
Domicella fuscata, 225.
Drymœca affinis, 88, 89.
—— africana, 366.
—— anchietæ, 117.
—— antinorii, 102.
—— bizonura, 95, 101.
—— cantans, 96, 97, 98.
—— cinerascens, 131, 133.
—— cisticola, 79, 80, 132, 137, 143.
—— clamans, 91, 93, 143.
—— concolor, 97.
—— cordofana, 105.
—— erythrogenys, 94, 95, 101, 138.
—— erythroptera, 94.
—— eximia, 106.
—— ferruginea, 135, 143.
Drymœca flaveola, 98,143.
—— flavicans, 290.
—— fortirostris, 130.
—— fulvescens, 104.
—— gracilis, 79, 80, 89, 91, 143.
—— inquieta, 79, 129, 143.
—— iodoptera, 93, 143.
—— levaillanti, 106, 291.
—— leucopyga, 104.
—— lineocapilla, 107.
—— lugubris, 96, 101, 143.
—— malzaci, 100.
—— marginalis, 94.
—— marginata, 94, 143.
—— mentalis, 187.
—— murina, 90.
—— mystacea, 88, 89, 90, 143.
—— nævia, 130, 131.
—— ortleppi, 207.
—— pachyrhyncha, 130, 131, 143.
—— pallida, 208.
—— pectoralis, 365.
—— procerula, 100.
—— pulchella, 92.
—— robusta, 99, 100, 101, 143.
—— ruficeps, 103, 104, 105, 106, 131, 132, 143.
—— rufifrons, 80, 87,143.
—— scotoptera, 104.
—— semitorques, 131.
—— simplex, 105.
—— subflava, 365.
—— subruficapilla, 97.
—— superciliosa, 89, 90.
—— sylvietta, 92.
—— troglodytes, 135.
—— uropygialis, 135.
—— valida, 130 131.
—— virgata, 106.
Dryoscopus major, 190.

Egretta russata, 251.
Elanus cæruleus, 288.
Elminia longicauda, 383.
Elornis littoralis, 220.
Elorius paludicola, 219.
Emberiza cia, 172, 213, 458.
—— cirlus, 172.
—— citrinella, 256.
—— fucata, 458.
—— hortulana, 173.
—— melanocephala, 128, 246.
—— miliaria, 173.

Emberiza personata, 347.
—— pusilla, 128.
—— rustica, 128.
—— schœniclus, 355.
—— stracheyi, 213.
—— striolata, 355.
Ephialtes scops, 394.
Ereunetes petrificatus, 429.
Erismatura maccoa, 302.
Erithacus schlegeli, 206.
Erolia varia, 431.
Erythronota niveiventris, 318.
Erythropus amurensis, 446.
Erythropygia pectoralis, 87.
Erythrosterna maculata, 162.
Estrelda astrild, 75, 370.
—— bengalus, 294.
—— erythronota, 78.
—— melba, 295.
—— polyzona, 370.
—— quartinia, 117.
—— rubricata, 370.
—— squamifrons, 78.
Eudromias morinellus, 173, 309.
Eudynamis australis, 331, 341.
—— ceylonensis, 339.
—— chinensis, 331, 340.
—— crassirostris, 340.
—— cyanocephala, 339, 340, 343.
—— facialis, 344.
—— flindersi, 341.
—— honorata, 335, 338, 339, 340, 341, 343.
—— malayana, 339, 340, 343.
—— melanorhyncha, 330, 344, 345.
—— mindanensis, 331, 335, 336, 340.
—— nigra, 339.
—— orientalis, 14, 47, 328, 335, 339, 340, 341, 342, 343.
—— picata, 341, 342.
—— punctata, 342.
—— ransomi, 329, 338, 339, 342, 346.
—— rufiventer, 344.
—— taitiensis, 336.
Eugenes fulgens, 316.
—— spectabilis, 316.
Eumyias melanops, 49, 161.
Euphcrusa egregia, 316, 318.
—— eximia, 316, 318.
Euplectes flammiceps, 191.
—— franciscanus, 191.
—— ignicolor, 191.
—— sundevalli, 294.
—— taha, 294.
Eupodotis afra, 375.
—— afroides, 375.
—— caffra, 300.
—— cristata, 298.
—— ludwigi, 75, 299.
—— ruficrista, 79.
—— senegalensis, 298.
Eurocephalus anguitimens, 78, 293.
Eurynorhynchus griseus, 426, 430, 431.
—— orientalis, 427, 431.
—— pygmæus, 427, 431, 432.
Eurystomus afer, 193.
—— orientalis, 155.
Euspiza melanocephala, 128.
—— sulphurata, 347.
Eustephanus galeritus, 283.

Falco atriceps, 356.
—— barbarus, 443.
—— communis, 120, 444.
—— indicus, 121.
—— lanarius, 245.
—— melanogenys, 444.
—— minor, 362, 443, 444, 445.
—— peregrinator, 121, 122, 356.
—— peregrinoides, 443.
—— peregrinus, 120, 121, 122, 185, 444.
—— radama, 444, 445.
—— schistaceus, 446.
Ficedula brevicaudata, 138.
—— hypolais, 230.
Francolinus adspersus, 375.
—— afer, 375, 459.
—— guttatus, 387.
—— levaillanti, 375.
—— natalensis, 375.
—— nudicollis, 375.
—— pileatus, 297.
—— swainsoni, 297.
—— vulgaris, 396, 458.
Fratercula arctica, 24, 171.
Fratercula glacialis, 27.
Fregetta melanogastra, 352.
Fregilus himalayanus, 213.
Fringilla formosa, 285.
—— gayi, 285, 286.
—— nisoria, 211.
—— striaticeps, 370.
Fringillauda sordida, 211.
Fulica ardesiaca, 110.
—— armillata, 110.
—— atra, 270.
—— chilensis, 110.
—— cornuta, 110.
—— cristata, 153, 183, 459.
—— leucoptera, 110.
—— leucopyga, 110.
—— newtoni, 220.
—— stricklandi, 110.
Fuligula cristata, 154.
—— gesneri, 254.
—— nyroca, 397.
—— rufina, 397.

Galerita macrorhyncha, 153.
Gallinago æquatorialis, 302, 377.
—— angolensis, 117.
—— gallinula, 173.
—— major, 153.
—— pusilla, 41.
—— scolopacinus, 173.
Gallinula chloropus, 270.
—— flavirostris, 195.
—— nesiotis, 378.
—— oculea, 195.
Gallophasis albocristatus, 60.
—— melanonotus, 170.
Gallus ferrugineus, 60, 170.
Gampsorhynchus rufulus, 163.
Garrulax albogularis, 51.
—— leucolophus, 163.
—— ocellatus, 164.
—— pectoralis, 163.
—— ruficollis, 163.
Garrulus bispecularis, 58.
—— lanceolatus, 58.
Gecinulus grantiæ, 157.
Gecinus occipitalis, 156.
—— squamatus, 414.
—— viridanus, 414.
—— viridis, 182.
Geocichla citrina, 162.
—— unicolor, 51.

Geococcyx mexicanus, 338.
Geotrygon albifacies, 110.
—— cæruleiceps, 317, 319.
—— caniceps, 317.
—— chiriquensis, 110, 317, 319.
—— costaricensis, 317.
—— cristata, 317.
—— veraguensis, 317.
Geranoaetus melanoleucus, 284.
Geronticus calvus, 111.
—— hagedash, 111.
Gerygone assimilis, 380.
—— flaviventris, 380.
Glareola lactea, 18.
—— nordmanni, 75.
—— pratincola, 181.
Glaucidium brodiei, 155.
—— passerinum, 396.
Graculus africanus, 77, 377.
—— fuscicollis, 170.
Grallaria guatemalensis, 312.
—— princeps, 312.
Grammatoptila striata, 163.
Grus antigone, 237.
—— cinerea, 174, 237.
—— excelsa, 219.
—— leucogeranus, 237.
—— primigenia, 219.
—— problematica, 219.
—— virgo, 111, 174.
Guira piririgua, 336.
Gymnobucco peli, 193.
Gymnocichla chiroleuca, 314, 318.
—— nudipes, 314, 318.
Gypaetus barbatus, 44, 174, 400.
Gyps bengalensis, 43, 356.
—— fulvescens, 356.
—— fulvus, 43, 68, 174, 183, 286, 356, 377.
—— indicus, 43, 356.
—— kolbii, 287.
Gypsornis cuvieri, 220.

Hæmatospiza sipahi, 169.
Halcyon albiventris, 278, 282, 290.
—— atricapillus, 409.
—— badia, 283.
—— chelicutensis, 278, 280, 282, 386.
—— chelicuti, 278, 279, 290.
Halcyon cinereifrons, 279.
—— coromandelianus, 155.
—— cyanoleuca, 276, 282.
—— cyanotis, 279.
—— damarensis, 277, 278, 290.
—— dryas, 282.
—— erythrogastra, 282.
—— fuscicapilla, 277.
—— fuscus, 408.
—— irrorata, 277.
—— leucocephalus, 408.
—— malimbica, 282.
—— orientalis, 278, 282.
—— semicærulea, 282.
—— senegalensis, 276, 282.
—— senegaloides, 277, 282.
—— striolata, 277, 278.
—— swainsoni, 277.
—— variegata, 278.
Haliaetus albicilla, 25, 202.
—— leucorhyphus, 45.
—— leucorypha, 202.
—— macæi, 449.
—— vocifer, 71, 449.
—— vociferator, 449.
—— vociferoides, 449.
Harpactes fasciatus, 406.
—— hodgsoni, 155.
—— orescius, 407.
Heliodoxa jacula, 316.
Heliomaster longirostris, 316.
—— pallidiceps, 316, 318.
—— sclateri, 316, 318.
—— stuartæ, 316.
Hemipteryx habessinica, 138.
—— immaculata, 136, 137.
—— iodopyga, 137.
—— oligura, 136, 137.
Hemixus flavala, 165.
Henicurus maculatus, 57, 166.
Heteromorpha unicolor, 163.
Heterura sylvana, 57.
Hierax eutolmus, 44.
Hierococcyx nisicolor, 158.
—— sparverioides, 158, 417.
—— varius, 417.
Himantopus candidus, 181.
Hirundinea bellicosa, 196, 197.
—— ferruginea, 195, 196, 197.
—— rupestris, 195, 196, 197, 198.
Hirundo albigula, 436.
—— albigularis, 436.
—— angolensis, 117.
—— cahirica, 396.
—— capensis, 72.
—— daurica, 46, 47, 347, 404.
—— dimidiata, 72.
—— erythropygia, 46, 47.
—— filifera, 403.
—— gordoni, 188, 363.
—— leucosoma, 188.
—— melanocrissa, 47, 188.
—— meyeni, 233.
—— nigrita, 461.
—— paludicola, 436.
—— ruficeps, 46.
—— rufifrons, 72, 436.
—— rufula, 47, 396.
—— rustica, 72, 404.
—— semirufa, 188, 290.
—— senegalensis, 47.
Homraius bicornis, 156, 409.
Hoplopterus armatus, 299.
—— spinosus, 246.
Huhua leucosticta, 387.
—— poensis, 194, 387.
Hydrochelidon fissipes, 154.
Hydrocissa albirostris, 410.
Hydrornis asiatica, 162.
—— natator, 219.
—— nipalensis, 162.
Hyetornis pluvialis, 336.
Hylactes tarnii, 283.
Hylophilus cinereiceps, 313.
—— decurtatus, 313.
—— pusillus, 313, 318.
Hyphantornis capitalis, 369.
—— castaneofuscus, 191.
—— ocularius, 74.
—— tahatali, 79.
—— textor, 191.
Hypopicus hyperythrus, 47.
Hypotriorchis concolor, 445, 446.
—— eleonoræ, 394, 445.

Hypotriorchis rufigularis, 319.
Hypsipetes maclellandi, 165.
—— psaroides, 52, 165.

Ibidopodia palustris, 219.
Ibis pagana, 219.
Indicator major, 373.
—— sparrmani, 337.
Ipagrus capricorni, 324.
Iridornis reinhardti, 195.
Irrisor erythrorhynchus, 364.
Ispidina lecontii, 283.
—— leucogaster, 283,386.
—— madagascariensis, 283.
—— natalensis, 281, 282, 283, 386.
—— nitida, 281, 386.
—— picta, 279, 281, 283, 386.
—— ruficeps, 283.
Ixulus flavicollis, 167,354.
Ixus ashanteus, 187.

Juida australis, 294.
—— phœnicoptera, 74.

Ketupu flavipes, 46, 155.

Læmodon nigrithorax, 373.
Lagonosticta rufopicta, 192.
Lampornis veraguensis, 318.
Lampracoccyx cupreus, 337.
—— lucidus, 337.
—— maculatus, 338.
Lamprocolius purpureiceps, 384.
Laniarius atrococcineus, 294.
—— barbarus, 190.
—— chrysogaster, 190.
—— icterus, 74.
—— multicolor, 383.
—— silens, 73.
Lanicterus niger, 189.
Lanius arenarius, 213.
—— auriculatus, 152, 185, 186.
—— collaris, 293.
—— collurio, 252.
—— crassirostris, 242.
—— cristatus, 213.
—— erythronotus, 48, 353.
Lanius excubitor, 8, 108, 252.
—— ferox, 242.
—— hardwickii, 7, 12, 48.
—— lahtora, 8.
—— ludovicianus, 118.
—— magnirostris, 242.
—— meridionalis, 252.
—— minor, 108.
—— nigriceps, 160, 353.
—— phœnicurus, 242.
—— shach, 347.
—— smithi, 190.
—— vittatus, 7.
Larus andersoni, 381.
—— argentatus, 355, 395.
—— atricilla, 255, 396.
—— canus, 396.
—— dominicanus, 284.
—— gelastes, 392, 396, 397.
—— leucophthalmus, 396.
—— marinus, 36.
—— melanocephalus, 252, 396, 397.
—— melanorhyncha, 381.
—— minutus, 395, 396, 397.
—— ridibundus, 395, 396, 397.
—— scopulinus, 381.
—— tridactylus, 251, 396.
Leptocoma zeylonica, 421.
Leptopogon pileatus, 319.
Leptosomus æneus, 337.
Lerwa nivicola, 210.
Lestris antarctica, 284.
Leucocerca aureola, 7.
—— fuscoventris, 161.
Leucopternis palliata,109.
—— polionota, 109.
—— semiplumbeus, 110.
Limnaetus cristatellus, 45.
—— niveus, 155.
Limnocorax flavirostris, 195.
Limosa ægocephala, 173.
—— lapponica, 154.
—— rufa, 251.
Linaria montana, 256.
Linota brevirostris, 213.
—— flavirostris, 172.
—— montium, 213.
—— pygmæa, 211.
Liothrix argentauris, 167.
—— luteus, 167.
Lobivanellus goensis, 60, 453.
Locustella nævia, 172.
Lophophanes melanolophus, 58.
Lophornis helenæ, 319.
Lophospiza trivirgata, 356.
Loriculus vernalis, 412.
Loxia curvirostra, 230.
—— malacca, 211.
—— striata, 211.
Lycornis cornuta, 110.

Machlolopha spilonotus, 167.
—— xanthogenys, 58.
Macropteryx cristata, 364.
Majaqueus parkinsoni, 351.
Malaconotus australis, 78.
Malurus gracilis, 89.
—— ruficeps, 103.
—— rufifrons, 87.
Mareca capensis, 76, 302.
—— chiloensis, 284.
Megalæna barbatula, 372.
—— caniceps, 2, 3.
—— virens, 157, 415.
Megalophonus africanoides, 435.
—— africanus, 435.
—— anderssoni, 434, 435.
—— apiatus, 295.
—— chenianus, 435.
—— cinereus, 295, 434, 435, 460.
—— ruficapillus, 435.
—— sabota, 435.
Melænornis silens, 293.
Melanochlora sultanea, 168.
Melierax gabar, 288.
—— musicus, 71, 289, 453.
—— niloticus, 289.
—— polyzonus, 153.
Melocichla mentalis, 187.
Melophus melanicterus, 59.
Meniceros bicornis, 410.
Mergus castor, 22.
—— merganser, 255.
—— serrator, 22.
Meropiscus gularis, 385.
Merops albicollis, 192.
—— apiaster, 72, 185.
—— cuvieri, 192.
—— erythropterus, 385.
—— hirundinaceus, 72.
—— viridis, 407.

Merula albocincta, 163.
—— boulboul, 51, 125, 162, 353.
—— litsitsirupa, 78.
—— mandarina 347.
Metopidius africanus, 270.
Microchæra albocoronata, 318.
Micronisus badius, 417.
Micropternus phæoceps, 157.
Milvus ægyptius, 449.
—— govinda, 46, 455.
—— ictinus, 174, 204, 394.
—— migrans, 179, 204, 362, 449.
—— parasiticus, 363.
Minla castaneiceps, 167.
—— cinerea, 167.
—— igneotincta, 167.
Mionectes assimilis, 315.
—— oleagineus, 315, 318.
—— olivaceus, 314.
—— striaticollis, 314.
Mitrephorus aurantiiventris, 315.
—— phæocercus, 315, 318.
Momotus martii, 222.
Monasa grandior, 315, 318.
—— nigra, 337.
—— peruana, 315, 318.
Montifringilla adamsi, 211, 213.
—— hæmatopygia, 213.
Motacilla aguimp, 367.
—— alba, 172.
—— aureocapilla, 214.
—— capensis, 73, 292.
—— citreola, 255.
—— citrinella, 214.
—— flava, 73.
—— longicauda, 73.
—— subflava, 291.
Munia kelaarti, 211.
—— leucogastroides, 211.
—— leuconota, 211.
—— pectoralis, 211.
—— punctularia, 211.
—— similaris, 211.
—— undulata, 211.
Muscicapa grisola, 73.
—— parva, 128.
—— rupestris, 198.
Muscicapula superciliaris, 50.
Muscipeta nigriceps, 188.
Muscivora rupestris, 198.
Musophaga gigantea, 385.
Mycteria senegalensis, 376.
Myiarchus ferrugineus, 196.
—— panamensis, 315, 318.
Myiomela leucura, 166.
Myiophonus temmincki, 50.
Myzanthe ignipectus, 159, 422.

Nectarinia angolensis, 383.
—— chloropygia, 188.
—— collaris, 365.
—— cuprea, 188.
—— cyanocephala, 188.
—— flammaxillaris, 420.
—— goalpariensis, 221.
—— hasselti, 420.
—— ludvicensis, 117.
—— pectoralis, 221.
—— pulchella, 383.
—— splendida, 188.
Nectris munda, 67.
Neophron ginginianus, 44.
—— percnopterus, 11, 43, 174, 183, 400.
Nestor meridionalis, 379.
—— norfolcensis, 379.
—— occidentalis, 40, 379.
—— productus, 323.
Nettapus madagascariensis, 377.
Nigrita bicolor, 191.
—— cinereocapilla, 385.
—— emilia, 384, 385.
—— fusconota, 384.
—— uropygialis, 384.
Niltava grandis, 162.
—— macgrigoriæ, 162.
—— sundara, 161.
Ninox hirsuta, 453.
—— madagascariensis, 453.
Nisaetus bonellii, 44, 143.
Nisus moreli, 448.
Nitidula hodgsoni, 161.
Noctua polleni, 453.
Nucifraga hemispila, 168.
Numenius antiquus, 219.
—— arquata, 154.
—— phæopus, 154.
Nycticorax griseus, 180, 238.
—— obscurus, 284.
Nyctiornis amicta, 408.
—— athertoni, 407.

Ocydromus australis, 270.
Odontorhynchus cinereus, 117.
Œdicnemus crepitans, 76, 173.
—— maculosus, 76.
—— senegalensis, 76.
Oligocercus micrurus, 141, 142.
Oligura brachyptera, 141.
—— brachyura, 141.
—— micrura, 141.
Onicognathus hartlaubi, 384.
Opisthocomus cristatus, 217.
Oreocœtes cinclorhynchus, 50, 353.
—— erythrogaster, 50.
Oreopyra castaneiventris, 316.
—— leucaspis, 318.
Oriolus baruffi, 383.
—— galbula, 52.
—— intermedius, 383.
—— kundoo, 4, 52.
—— trailli, 166.
Ortalida garrula, 318.
—— cinereiceps, 318, 319.
—— poliocephala, 318, 319.
Orthotomus clamans, 138.
—— coronatus, 166.
—— griseoviridis, 138.
—— longicauda, 3.
—— salvadoræ, 141.
Ortygometra crex, 377.
—— minuta, 172.
—— pygmæa, 172.
Ossifraga gigantea, 352.
Otagon tanagra, 39, 380.
Otis arabs, 150.
—— tarda, 151, 154, 178, 185.
Otocompsa leucogenys, 52, 166.
Otocorys bilopha, 153.
Otogyps auricularis, 68, 392.
—— calvus, 43.
Otus capensis, 71.
—— madagascariensis, 453.
Oxylophus glandarius, 152, 180, 401.
—— serratus, 297.
Oxyrhynchus flammiceps, 314.
—— frater, 314.

Padda oryzivora, 458.
Palæornis alexandri, 47, 410, 411.
—— rosa, 411, 412.

Palæornis schisticeps, 47, 411.
—— torquata, 4, 410, 459.
Palœlodus ambiguus, 219.
—— crassipes, 220.
—— goliath, 219.
—— gracilipes, 220.
—— minutus, 220.
Pandion haliæetus, 173, 203.
Panterpe insignis, 316.
Paradoxornis ruficeps, 163.
Parra africana, 388.
Parus cæruleus, 246.
—— cinerascens, 73.
—— cinereus, 58, 72, 214, 215.
—— cristatus, 130.
—— major, 245.
—— monticolus, 58, 167.
Passer arcuatus, 295.
—— domesticus, 172, 250, 256.
—— hispaniolensis, 173.
—— indicus, 59.
—— italiæ, 251.
—— montanus, 169, 348.
—— motitensis, 79.
—— salicicola, 251.
Pastor roseus, 17.
Pelargopsis magnus, 219.
Pelecanoides berardi, 241.
—— urinatrix, 352.
Pelecanus onocrotalus, 463.
—— orientalis, 255.
—— trachyrhynchus, 350.
Penelope cristata, 317.
—— jacuaca, 317, 319.
—— purpurascens, 317, 319.
Perdix cinerea, 184, 226, 250, 252, 253, 395.
—— francolinus, 252.
—— petrosa, 253.
—— rufa, 252, 253.
Pericrocotus brevirostris, 48, 160.
—— speciosus, 160.
Peristera puella, 387.
—— tympanistria, 387.
Pernis apivorus, 185, 203, 450.
—— cristatus, 450.
—— madagascariensis, 450.
Petasophora delphinæ, 319.
Petrocincla castaneocollis, 213.
—— cyanea, 394, 400.
—— explorator, 368.
—— manillensis, 347.
—— rupestris, 368.
—— saxatilis, 171, 213.
Petrocossyphus cyaneus, 162.
Petronia stulta, 173.
Phalacrocorax carunculatus, 284.
Phalaris psittacula, 221.
Phalaropus fulicarius, 430.
Phasianus colchicus, 358.
—— mexicanus, 338.
Phasmoptynx capensis, 436.
Pheucticus tibialis, 222.
Philomela major, 356.
Phlexis layardi, 84.
Phœnicophaes pyrrhocephalus, 337.
Phœnicopterus americanus, 443.
—— andinus, 443.
—— antiquorum, 438, 441.
—— antiquus, 442.
—— blythi, 442.
—— chilensis, 438, 442.
—— croizeti, 219.
—— erythræus, 442.
—— europæus, 441.
—— glyphorhynchus, 442.
—— ignipalliatus, 441, 442, 443.
—— minor, 231, 355, 438, 442.
—— parvus, 442.
—— roseus, 178, 230, 355, 392, 401, 441, 442.
—— ruber, 438, 441, 442, 443.
—— rubidus, 230, 355, 442.
Phœnicothraupis carmioli, 313.
Pholidauges leucogaster, 190.
Phrygilus aldunatii, 285.
—— gayi, 285.
Phyllopneuste bonellii, 208.
—— macrorhyncha, 357.
—— rama, 235, 236, 357.
—— trochilus, 172, 208.
Phylloscopus brevirostris, 236.
—— indicus, 56.
—— lugubris, 354.
—— rama, 211.
—— rufus, 56, 236, 354.
—— tristis, 56, 354.
—— trochilus, 237, 354.
—— viridanus, 56, 237, 354.
Phyllostrephus leucopleurus, 382.
Piaya brachyptera, 334.
—— cayana, 335.
—— melanogaster, 337.
—— minuta, 335.
—— ridibunda, 336.
Pica mauritanica, 152.
—— melanoleuca, 180, 401.
Picolaptes compressus, 222, 314.
—— lineaticeps, 222, 314, 318.
Picus atratus, 413.
—— brunneifrons, 47, 412.
—— capricorni, 324.
—— guttatus, 323.
—— himalayanus, 47, 412.
—— lignarius, 283.
—— mahrattensis, 2.
—— majoroides, 156.
—— malaccensis, 413.
Pipastes agilis, 57.
Pipra nattereri, 117.
Pitta angolensis, 187.
—— digglesi, 350.
—— mackloti, 349, 350.
Platalea leucorodia, 183.
—— pygmæa, 426, 427, 429, 430.
Platycercus alpinus, 39, 40, 378, 379.
—— auriceps, 39, 40, 379.
—— pacificus, 39.
Platyrhynchus albogularis, 314, 318.
—— cancrominus, 314, 318.
—— hirundinaceus, 198.
—— rupestris, 198.
Platystira lobata, 189.
—— melanoptera, 189.
—— pistrinaria, 368.
Plocepasser mahali, 78.
Ploceus baya, 356.

Ploceus fringilloides, 211.
—— lathami, 78.
—— megarhynchus, 356.
—— taha, 78.
Plotus capensis, 77.
Podica mosambicana, 77.
Podiceps australis, 381.
—— caliparius, 284.
—— cristatus, 154, 248, 303, 380, 381.
—— hectori, 380, 381.
—— minor, 303.
—— nigricollis, 248, 303.
—— rollandi, 241, 284.
Podilymbus podiceps, 284.
Poephila cincta, 459.
Pogonias bidentatus, 193.
—— duchaillui, 193.
—— hirsutus, 386.
—— vieilloti, 193.
Pogonorhynchus bidentatus, 193.
—— vieilloti, 193.
Poliornis teesa, 45.
Polyboroides radiatus, 451.
—— typicus, 194, 451.
Polyphasia nigra, 329.
—— tenuirostris, 418.
Pomatorhinus erythrogenys, 51.
—— ferruginosus, 163.
—— schisticeps, 163.
Porphyrio hyacinthinus, 253, 254.
—— madagascariensis, 270, 274.
—— veterum, 178, 183, 397.
Porzana albigularis, 109.
—— hauxwelli, 109.
—— leucopyrrha, 109.
—— melanophæa, 109.
Potamodus cettii, 392.
Pratincola caprata, 53.
—— ferrea, 55.
—— indica, 47, 53, 54.
—— rubetra, 355.
—— rubicola, 53, 54, 171, 353.
Prinia clamans, 91.
—— cursitans, 132.
—— gracilis, 91.
—— hodgsoni, 354.
—— inquieta, 129.
—— pulchella, 92.
Prionops talacoma, 78, 293.
Procellaria aterrima, 66.
—— atlantica, 66.
Procellaria bulweri, 66.
—— caribbæa, 66.
—— fuliginosa, 66.
—— gigantea, 460.
—— incerta, 62.
—— leachi, 28.
—— leucocephala, 66.
—— munda, 67.
—— neglecta, 63.
—— parvirostris, 63.
—— pelagica, 28.
—— rostrata, 62.
Psilorhinus mexicanus, 314.
—— morio, 314.
Psittacula meyeri, 372.
—— roseicollis, 372.
Psittacus meyeri, 296.
Pterocles arenarius, 152.
—— bicinctus, 298.
—— gutturalis, 78, 297.
—— tachypetes, 75.
—— variegatus, 78, 375.
Pterodroma macroptera, 66, 351.
Pteroptochus thoracicus, 117.
Pteruthius erythropterus, 57.
—— melanotis, 212.
—— xanthochlorus, 211, 212.
Pucrasia macrolopha, 60.
Puffinus anglorum, 35, 391.
—— assimilis, 352.
—— elegans, 68.
—— major, 388, 389, 390, 391.
—— mundus, 67.
—— obscurus, 352.
Pycnonotus arsinoe, 84.
—— aurigularis, 73.
—— capensis, 460.
—— pusillus, 11.
—— pygæus, 52, 166.
Pyranga hepatica, 312.
—— testacea, 312.
Pyrgisoma biarcuatum, 314, 318.
—— cabanisi, 314, 318.
—— kieneri, 314, 318.
—— leucote, 110.
—— rubricatum, 110.
Pyrrhocorax alpinus, 175.
—— graculus, 175, 395.
Pyrrhulauda leucotis, 78.

Rallus aquaticus, 172, 270.
—— beaumonti, 220.
—— chrystii, 220.
Rallus crex, 270.
—— dispar, 220.
—— eximius, 220.
—— intermedius, 220.
—— major, 220.
—— oculeus, 195.
—— porzanoides, 220.
Recurvirostra avocetta, 76.
Reguloides chloronotus, 457.
—— occipitalis, 457, 458.
—— proregulus, 236, 354, 456, 457.
—— superciliosus, 56, 128, 236, 354, 457, 458.
—— trochiloides, 458.
—— viridipennis, 457.
Regulus cristatus, 213.
—— himalayensis, 213.
Rhamphastus approximans, 316.
—— brevicarinatus, 317.
—— carinatus, 316.
Rhamphocænus rufiventris, 319.
Rhinortha chlorophæa, 334.
Rhynchaspis capensis, 377.
Rhynchocyclus brevirostris, 318.
—— griseimentalis, 315, 318.
Rhynchops albicollis, 18.
—— melanura, 284.
Rissa tridactyla, 24.
Rollulus superciliosus, 357.
Rostrhamus sociabilis, 317, 318.
Rubigula flaviventris, 165.
Ruticilla phœnicura, 392.
—— tithys, 153, 171, 392.

Salicaria cinnamomea, 83.
—— cisticola, 130.
—— leucoptera, 86.
Sapphironia cæruleogularis, 318.
Saurothera vetula, 335.
Saxicola albicans, 207.
—— albiscapulata, 72.
—— arnotti, 206.
—— atmorii, 206.
—— baroica, 207.
—— bifasciata, 366.
—— cachinnans, 397, 400.
—— castor, 205.
—— cinerea, 205.

Saxicola eurymelæna, 205.
—— infuscata, 207, 367.
—— isabellina, 357.
—— leucomela, 255.
—— leucura, 171, 185, 234.
—— leucuroides, 234.
—— lugubris, 206.
—— mariquensis, 367.
—— modesta, 206, 207.
—— monticola, 205, 366.
—— œnanthe, 234, 235, 357.
—— picata, 234.
—— pollux, 207.
—— rufiventer, 72.
—— saltatrix, 234, 235, 255, 357.
—— sperata, 72.
Schizærhis concolor, 79, 296, 372.
Scolopax rusticola, 173.
Scops barbarus, 109.
—— flammeola, 109.
—— madagascariensis, 452.
—— menadensis, 452.
—— rutilus, 452, 453.
Scotornis climacurus, 192.
—— nigricans, 223.
Seena aurantia, 18.
Serpentarius reptilivorus, 363.
Serpophaga cinerea, 319.
Setophaga aurantiaca, 313.
—— flammea, 313.
—— verticalis, 313.
Sibia capistrata, 164.
Sitta castaneoventris, 424.
—— cinnamomeoventris, 425.
—— formosa, 160.
—— himalayensis, 48, 160.
—— leucopsis, 424.
Siva cyanouroptera, 167.
—— strigula, 167.
Spatula clypeata, 154.
Spermestis cucullata, 192.
Spermospiza guttata, 384.
—— hæmatina, 192.
Spheniscus demersus, 460.
—— magellanicus, 284.
Sphenocercus apicaudus, 169.
—— sphenurus, 60, 169.
Sphenœacus alexinæ, 81.
—— punctatus, 38.
—— rufescens, 38.
Spizaetus coronatus, 71, 362, 387.
—— occipitalis, 71, 447.
Squatarola helvetica, 173, 226.
Stachyris pyrrhops, 354.
Stelgidopteryx fulvigula, 313.
—— fulvipennis, 313.
Stenopsis macrorhyncha, 223.
Stercorarius buffoni, 389.
—— catarrhactes, 77.
Sterna arctica, 25.
—— cassini, 284.
—— fluviatilis, 25.
—— fuliginosa, 348.
—— hybrida, 181.
—— javanica, 18, 170.
—— stolida, 255.
—— velox, 348.
Stiphrornis erythrothorax, 187.
Strepsilas interpres, 230, 347.
Strix capensis, 462.
—— flammea, 394, 452.
—— poensis, 452.
—— superciliaris, 453.
Sturnopastor contra, 15.
Sturnus vulgaris, 172.
Sula bassana, 23, 174.
—— fusca, 347, 348.
Surniculus dicruroides, 158.
Suya atrogularis, 166.
—— criniger, 55.
Sycobius bicolor, 74.
—— cristatus, 191.
—— nitens, 192.
—— nuchalis, 191.
—— scutatus, 191.
Sylvia brachyptera, 83.
—— brevicaudata, 138.
—— cairii, 255.
—— cettii, 82, 255.
—— cinnamomea, 83.
—— cisticola, 130.
—— curruca, 57.
—— delicatula, 355.
—— elaica, 255.
—— erythrogastra, 255.
—— galactodes, 84.
—— hortensis, 230.
—— hypolais, 255.
—— locustella, 255.
—— melanocephala, 87, 397.
—— obscura, 230.
—— olivetorum, 255.
—— sarda, 255.
Sylvia subalpina, 172.
—— textrix, 132.
—— umbrovirens, 139.
Sylvietta brachyura, 141, 142.
—— brevicauda, 141.
—— micrura, 142.
Sylviparus modestus, 353.
Syncopta tincta, 140.
Synœcus lodoisiæ, 393.
Syrrhaptes paradoxus, 397.

Taccocua sirkee, 418.
Tadorna scutellata, 357.
Tchitrea affinis, 161.
—— cristata, 368.
—— cyanomelas, 369.
—— nigriceps, 188.
—— paradisi, 9, 49.
Telephonus collaris, 73.
—— minutus, 383.
Temenuchus malabaricus, 59, 169.
—— pagodarum, 17, 59, 210.
Terekia cinerea, 307, 308.
Tesia castaneocoronata, 162.
Tetraogallus tibetanus, 212.
Textor erythrorhynchus, 78.
Thalassidroma melitensis, 251.
—— monorhis, 348.
—— pelagica, 171, 251.
—— wilsoni, 389.
Thamnophilus affinis, 314.
—— doliatus, 314, 318.
Theristicus melanopis, 233.
Thinocorus rumicivorus, 284.
Thinornis frontalis, 304.
—— novæ-zealandiæ, 308.
—— rossi, 308.
Tichodroma muraria, 395.
Tinnunculus alaudarius, 44, 173, 394.
—— cenchris, 174, 362.
—— gracilis, 447.
—— newtoni, 446.
—— punctatus, 447.
—— rupicoloides, 288.
—— rupicolus, 288.
Tityra albitorques, 315, 318.
—— fraseri, 315, 318.

Tockus semifasciatus, 192.
Todirhamphus collaris, 409.
Todus ferrugineus, 196.
Totanus calidris, 182.
—— glareola, 154.
—— glottis, 154, 347.
—— lartetianus, 219.
—— macularius, 253.
—— ochropus, 226.
—— stagnatilis, 76.
Trachyphonus purpuratus, 386.
Treron calva, 194.
Tribonyx mortieri, 270.
Trichophorus eximius, 383.
—— gularis, 187.
—— icterinus, 382.
—— indicator, 187.
—— nivosus, 382.
—— tricolor, 382.
Tringa canutus, 226, 251, 434.
—— cinerea, 251.
—— gracilis, 219.
—— maritima, 253.
—— minuta, 154, 226.
—— pectoralis, 253.
—— platyrhyncha, 253, 429.
—— pusilla, 428.
—— rufescens, 253.
—— schinzi, 253.
—— subarcuata, 429, 431, 434.
—— subarquata, 76.
Tringoides hypoleucus, 154.
Trochalopterum chrysopterum, 164.
—— erythrocephalum, 51.
—— lineatum, 51.
—— phœniceum, 164.
Troglodytes europæus, 255.
—— hornensis, 233.
—— magellanicus, 233.
—— micrurus, 141.
—— tessellatus, 312.
Trogon aurantiiventris, 316.
—— bairdi, 316.
—— caligatus, 316.
—— clathratus, 316.
—— concinnus, 315, 318.
—— cornutus, 335.
—— duvaucelii, 406.
—— maculatus, 334, 338.
—— puella, 316.
—— venustus, 316.
Turacus persa, 335, 372.
Turdulus wardi, 162.
Turdus arundinaceus, 84.
—— atrigularis, 128.
—— grayi, 312.
—— hodgsoni, 122, 124.
—— iliacus, 51, 172.
—— merula, 459.
—— musicus, 50, 173.
—— obscurus, 78, 312.
—— olivaceus, 292.
—— pelios, 187.
—— pilaris, 173.
—— rubiginosus, 84.
—— strepitans, 293.
—— torquatus, 51.
—— unicolor, 51.
—— viscivorus, 123.
Turnagra crassirostris, 39.
—— hectori, 39, 380.
Turnix hottentota, 375.
—— ocellata, 375.
—— rostrata, 348.
Turtur cambayensis, 19, 60, 145, 406.
—— humilis, 19.
—— meena, 60, 354.
—— risorius, 19, 151, 153.
—— rupicolus, 354.
—— semitorquatus, 372, 374.
—— suratensis, 19, 169.
—— vulgaris, 153.
Tyranniscus parvus, 315.
—— vilissimus, 315, 318.
Tyrannus bellicosus, 195, 196.
—— pyrrhophæus, 198.

Upupa epops, 48, 182.
Uria grylle, 240.
—— mandtii, 240.
Urocissa cucullata, 168.
—— occipitalis, 168.
—— sinensis, 335.
Urolestes cissoides, 293.

Vanellus cayennensis, 284.
—— coronatus, 300.
—— cristatus, 173.
—— gregarius, 251, 253.
—— melanopterus, 309.
Venilia pyrrhotis, 157.
Vidua macrura, 192.
—— principalis, 75, 192.
Vivia innominata, 415.
Volvocivora melaschistus, 160.
Vultur auricularis, 287.
—— cinereus, 174, 184, 396, 401.
—— monachus, 174, 182, 183.
—— occipitalis, 287.

Waldenia nigrita, 461.

Xanthodira flavigula, 371.
Xantholæma indica, 2, 211, 416.
Xenicus haasti, 37.
—— longipes, 37.
Xenops heterurus, 319.

Yuhina gularis, 167.
Yungipicus canicapillus, 412.
—— moluccensis, 413.
—— rubricatus, 156.

Zanclostomus aereus, 194.
—— flavirostris, 194.
—— tristis, 159, 418.
Zonotrichia canicapilla, 284, 285.
—— pileata, 285.
Zoothera monticola, 162.
Zosterops capensis, 292.
—— lateralis, 367.
—— palpebrosus, 57.

THE END.

Printed by TAYLOR and FRANCIS, Red Lion Court, Fleet Street.

NEW SERIES.
VOL. V. NO. 17.

JANUARY 1869.

Price 6*s.*

THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY

ALFRED NEWTON, M.A.,

PROFESSOR OF ZOOLOGY AND COMPARATIVE ANATOMY
IN THE UNIVERSITY OF CAMBRIDGE,
F.L.S., F.Z.S., ETC., ETC.

LONDON:
JOHN VAN VOORST, 1, PATERNOSTER ROW.

Annual Subscription, payable before 31*st March each year,* £1 1*s.*

TAYLOR AND FRANCIS, PRINTERS,] [RED LION COURT, FLEET STREET.

Books published by Mr. Van Voorst during 1868.

ON THE ARCHITECTURAL HISTORY OF ELY CATHEDRAL. By the Rev. D. J. STEWART, M.A., Minor Canon. 8vo, cloth, £1 1*s*.

THESAURUS SILURICUS. The Flora and Fauna of the Silurian Period, with Addenda (from recent acquisitions). By JOHN J. BIGSBY, M.D., F.G.S., &c. 4to, half cloth, 18*s*.

REFUGIUM BOTANICUM, or Figures and Descriptions from Living Specimens of little-known or New Plants of Botanical interest. Edited by W. WILSON SAUNDERS, F.R.S., F.L.S. The descriptions by H. G. REICHENBACH, Professor of Botany and Director of the Botanic Garden, Hamburg, J. G. BAKER, F.L.S., Assistant Curator of Kew Herbarium, and other Botanists. The Plates by W. H. FITCH. Parts 1 and 2, royal 8vo, sewed, 7*s*. 6*d*. each.

COLEOPTERA HESPERIDUM. Being an Enumeration of the Coleopterous Insects of the Cape Verde Archipelago. By T. VERNON WOLLASTON, M.A., F.L.S. 8vo, cloth, 10*s*. 6*d*.

THOUGHTS OF A PHYSICIAN. Being a Second Series of Evening Thoughts. Post 8vo, cloth, 5*s*.

THE ELEMENTS OF HEAT AND OF NON-METALLIC CHEMISTRY. Especially designed for Candidates for the Matriculation Pass Examination of the University of London. By FREDERICK GUTHRIE, B.A. (Lond.), Ph.D., F.R.S.E., F.C.S., late Professor of Chemistry and Physics, Royal College, Mauritius. Post 8vo, 7*s*.

THE MOCKING-BIRD AND OTHER POEMS. By FREDERICK FIELD, F.R.S. Fcp. 8vo, cloth, 5*s*.

THE LEPIDOPTERIST'S REGISTER. Compiled by T. J. CARRINGTON. 4to, sewed, Parts 1 to 13, 3*d*. each.

LOWE'S MANUAL FLORA OF MADEIRA and the adjacent Islands of Porto-Santo and the Desertas. Part 4, 12mo, sewed, 3*s*. 6*d*., completing Vol. I.

A RECORD OF THE ZOOLOGICAL LITERATURE OF THE YEAR 1867. (Vol. IV.) Edited by ALBERT C. L. G. GÜNTHER, M.A., M.D., Ph.D., F.R.S., &c. &c.

To facilitate the acquisition of these Reports, which are almost indispensable to working Zoologists, the volume has been issued in three parts, viz.:—

Part I. Containing the Reports on Mammals, Birds, Reptiles, and Fishes. By Dr. GÜNTHER and Prof. NEWTON. 10*s*.

Part II. Entomology. By W. S. DALLAS, F.L.S. 14*s*.

Part III. Mollusca, Crustacea, and the Lower Animals. By Dr. VON MARTENS and Prof. E. P. WRIGHT. 10*s*.

Purchasers of the entire volume will receive it in the same form, and at the same price (30*s*.) as before.

THE IBIS, a Quarterly Journal of Ornithology. Edited by ALFRED NEWTON, M.A., F.L.S., F.Z.S., &c., Professor of Zoology and Comparative Anatomy in the University of Cambridge. Nos. 13 to 16, forming Vol. IV., 26*s*. cloth.

BATE AND WESTWOOD'S HISTORY OF BRITISH SESSILE-EYED CRUSTACEA. Parts 20 & 21. Demy 8vo, 2*s*. 6*d*.; Royal 8vo, 5*s*. each.

HEWITSON'S EXOTIC BUTTERFLIES. 4to, Parts 65 to 68, 5*s*. each.

THE ENTOMOLOGIST'S MONTHLY MAGAZINE. 8vo, Nos. 44 to 55, 6*d*. each; and Vol. IV. 7*s*. cloth.

THE ENTOMOLOGIST'S ANNUAL for 1869. 2*s*. 6*d*.

THE ZOOLOGIST. New Series, Nos. 28 to 39, 1*s*. each.

THE JOURNAL OF THE CHEMICAL SOCIETY. 8vo, Nos. 61 to 72, 1*s*. each.

Nearly ready.

A HISTORY OF THE BRITISH HYDROID ZOOPHYTES. By the Rev. THOMAS HINCKS, B.A. With figures of about 150 species engraved on 67 copper plates, and with woodcuts. 2 Vols., 8vo.

JOHN VAN VOORST, 1 PATERNOSTER ROW.

BOOKS ON CHEMISTRY,

PUBLISHED BY MR. VAN VOORST.

THE ELEMENTS OF HEAT AND OF NON-METALLIC CHEMISTRY. Especially designed for Candidates for the Matriculation Pass Examination of the University of London. By Frederick Guthrie, B.A. (Lond.), Ph.D., F.R.S.E., F.C.S., Late Professor of Chemistry and Physics, Royal College, Mauritius. Post 8vo, 7*s.*

HANDBOOK OF CHEMICAL MANIPULATION. By C. Greville Williams. Fully Illustrated. Post 8vo, 15*s.*

INTRODUCTION TO PHARMACEUTICAL CHEMISTRY. By John Attfield, Ph.D., F.C.S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain. Post 8vo, 10*s.* 6*d.*

LECTURE NOTES FOR CHEMICAL STUDENTS, embracing both Mineral and Organic Chemistry. By E. Frankland, F.R.S., Professor of Chemistry in the Royal Institution of Great Britain, and in the Government School of Mines. Post 8vo, 12*s.*

MANUAL OF CHEMICAL QUALITATIVE ANALYSIS. By A. B. Northcote, F.C.S., and Arthur H. Church, F.C.S. Post 8vo, 10*s.* 6*d.*

THE LABORATORY GUIDE FOR STUDENTS IN AGRICULTURAL CHEMISTRY. By A. H. Church, M.A., Professor of Chemistry, Royal Agricultural College, Cirencester. Post 8vo, 4*s.* 6*d.*

A MANUAL OF INORGANIC CHEMISTRY, arranged to facilitate the Experimental Demonstration of the Facts and Principles of the Science. By Charles W. Eliot, Professor of Analytical Chemistry and Metallurgy, and Frank H. Storer, Professor of General and Industrial Chemistry, in the Massachusetts Institute of Technology. First English Edition. Post 8vo, 10*s.* 6*d.*

THE MECHANICAL THEORY OF HEAT, with its applications to the Steam-engine and to the Physical Properties of Bodies. By R. Clausius, Professor of Physics in the University of Zurich. Edited by T. Archer Hirst, F.R.S., Professor of Mathematics in University College, London. 8vo, 15*s.*

THE JOURNAL OF THE CHEMICAL SOCIETY. 1*s.* monthly.

Illustrated by Ten Coloured and Eight Tinted Plates,

Royal 8vo, price £1 11*s.* 6*d.*,

Part I. (containing Accipitres) of

OOTHECA WOLLEYANA:

AN ILLUSTRATED AND DESCRIPTIVE CATALOGUE

OF THE COLLECTION OF BIRDS' EGGS FORMED BY

THE LATE JOHN WOLLEY, Jun., M.A., F.Z.S.

Edited from the original notes

By ALFRED NEWTON, M.A., F.L.S.

⁂ *Part II. is in preparation.*

JOHN VAN VOORST, 1 PATERNOSTER ROW.

CONTENTS OF NUMBER XVII.—NEW SERIES.

Page

I. Stray Notes on Ornithology in India. By ALLAN HUME, C.B. 1

II. The Bird-Stations of the Outer Hebrides. By HENRY JOHN ELWES, Lieut. and Capt. Scots Fusilier Guards, F.Z.S. 20

III. On some New Species of New-Zealand Birds. By WALTER BULLER, F.L.S., C.M.Z.S. 37

IV. Notes on Birds observed near Nynee Tal and Almorah, from April to June 1868. By W. E. BROOKS, C.E. 43

V. On some new *Procellariidæ* collected during a Voyage round the World in 1865–68 by H.I.M.'s S. '*Magenta.*' By HENRY HILLYER GIGLIOLI, Sc.D., C.M.Z.S., Naturalist to the Expedition, and THOMAS SALVADORI, M.D., C.M.Z.S., Assistant in the Royal Zoological Museum of Turin 61

VI. Further Notes on South-African Ornithology. By E. L. LAYARD, F.Z.S. 68

VII. The *Malurinæ* of North-Eastern Africa. By Dr. M. T. VON HEUGLIN. (Plates I.–III.) 79

VIII. Notices of Recent Ornithological Publications:—

1. *English*:—Gould's 'Birds of Great Britain,' parts xiii. and xiv.; Sclater and Salvin's 'Exotic Ornithology,' parts vii. and viii.; A. C. Smith's 'Nile and its Banks;' Barnard's Translation of Paijkull's 'Summer in Iceland' 108
2. *Dutch*:—Schlegel and Pollen—'Recherches sur la Faune de Madagascar,' livr. iv. 112
3. *German*:—Von Pelzeln's 'Ornithologie Brasiliens,' Abth. ii. 113
4. *Portuguese*:—Bocage on West-African Ornithology 117
5. *American*:—Coues's "Synopsis of the Birds of South Carolina" 118

IX. Letters, Announcements, &c.:—

Letters from Mr. Allan Hume, Colonel Tytler, Messrs. J. Hepburn, Van Wickevoort-Crommelin, and Gould 120

Covers for binding last year's Volume may be had on application to the Publisher, at 1*s.* 4*d.* each.

Communications may be addressed to the EDITOR, Professor NEWTON, Magdalene College, Cambridge. Books for Review, Subscriptions, Advertisements, &c. to the Publisher, JOHN VAN VOORST, 1 Paternoster Row, London, E.C.

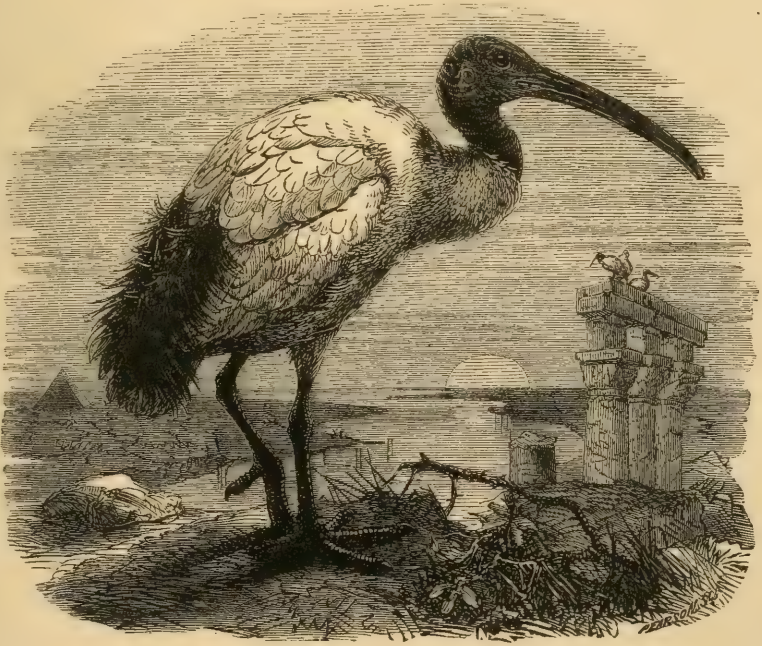
Members of the B. O. U. are requested to keep the Secretary, OSBERT SALVIN, Esq. (32 The Grove, Boltons, London, S.W.), informed of any change of Residence, that the Numbers of 'The Ibis' may be sent them accordingly.

NEW SERIES.
Vol. V. No. 18.
APRIL 1869.
Price 6*s*.

THE IBIS,

A
QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY
ALFRED NEWTON, M.A.,
PROFESSOR OF ZOOLOGY AND COMPARATIVE ANATOMY
IN THE UNIVERSITY OF CAMBRIDGE,
F.L.S., F.Z.S., ETC., ETC.



LONDON:
JOHN VAN VOORST, 1, PATERNOSTER ROW.

Annual Subscription, payable before 31st March each year, £1 1s.

TAYLOR AND FRANCIS, PRINTERS,] [RED LION COURT, FLEET STREET.

In preparation,

THE BIRDS OF NEW ZEALAND.

By WALTER BULLER, F.L.S.

AUTHOR OF THE N. Z. EXHIBITION ESSAY ON NEW-ZEALAND ORNITHOLOGY.

The work will comprise an Introductory Treatise, a short diagnosis of each Species, synoptical lists of the Nomenclature, and a Popular History and Description of all the known Species; illustrated by about *Twenty-five* Coloured Plates of New-Zealand Birds by a competent artist.

About 600 pages—Royal 8vo. Price £2 2*s*.

SUBSCRIBERS' NAMES ALREADY RECEIVED.

Alfred Newton, Esq., M.A., F.L.S., F.Z.S.
Henry Buckley, Esq., F.Z.S.
Geo. Dawson Rowley, Esq., M.A., F.Z.S.
Colonel Harcourt.
Rt. Hon. Arthur Viscount Walden, F.L.S., Pres. Z.S.
Osbert Salvin, Esq., M.A., F.L.S., F.Z.S.

JOHN VAN VOORST, 1 PATERNOSTER ROW.

BALÆNICEPS REX.

A fine and well-stuffed female Specimen of this rare and very extraordinary Bird is for sale, in good condition.

Address Mons. le Conseiller Aulique M. T. de Heuglin, Ober-Türkheim, Württemberg.

Just published.

1.

A HISTORY OF THE BRITISH HYDROID ZOOPHYTES.

By the Rev. Thomas Hincks, B.A.

2 vols. 8vo, with 67 Plates and 45 Woodcuts. £2 2*s*.

2.

A HISTORY OF THE BRITISH SESSILE-EYED CRUSTACEA.

By C. Spence Bate, F.R.S., F.L.S., and J. O. Westwood, M.A., F.L.S., Hope Professor of Zoology in the University of Oxford, &c.

2 vols. 8vo, illustrated by 384 woodcuts, comprising figures of the 260 Species, and 124 miscellaneous vignettes and details. £3.

The above are two further portions of the series of works on the NATURAL HISTORY OF THE BRITISH ISLES, in which there have already been published the Quadrupeds, the Reptiles, and the Stalk-eyed Crustacea, by Prof. Bell; the Birds and the Fishes, by Mr. Yarrell; the Birds' Eggs, by Mr. Hewitson; the Starfishes and the Molluscous Animals and their Shells by Prof. Forbes; the Zoophytes, by Dr. Johnston; the Fossil Mammals and Birds, by Prof. Owen; the Ferns, by Mr. Newman; and the Forest Trees, by Mr. Selby.

*** This Series of Works is illustrated by many hundred Engravings; every Species has been drawn and engraved under the immediate inspection of the Authors; the best Artists have been employed, and no care or expense has been spared.

A few copies have also been printed on large paper.

JOHN VAN VOORST, 1 PATERNOSTER ROW.

CONTENTS OF NUMBER XVIII.—NEW SERIES.

Page
X. The *Malurinæ* of North-Eastern Africa. By Dr. M. T. von Heuglin . 129

XI. Stray Notes on Ornithology in India. By Allan Hume, C.B. 143

XII. Further Notes on the Birds of Morocco. By C. F. Tyrwhitt Drake . 147

XIII. List of Birds obtained in Sikkim, Eastern Himalayas, between March and July 1867. By G. E. Bulger, F.L.S., F.R.G.S., C.M.Z.S. . . . 154

XIV. Ornithological Rambles in Spain. By Howard Saunders, F.Z.S. . . 170

XV. On a Collection of Birds from the Fantee Country in Western Africa. By R. B. Sharpe. (Plate IV.) 186

XVI. Note on the Species of the Genus *Hirundinea*, belonging to the Family *Tyrannidæ*. By P. L. Sclater, M.A., Ph.D., F.R.S., Sec. Zool. Soc. (Plate V.) 195

XVII. On some of the Birds of Prey of Central Bulgaria. By C. Farman, C.E. 199

XVIII. Notes on some new South-African *Sylviidæ*. By H. B. Tristram, M.A., F.R.S., &c. (Plate VI.) 204

XIX. Remarks on *Dr. Stoliczka's* 'Ornithological Observations in the Sutlej Valley.' By Arthur Viscount Walden, P.Z.S. &c. 208

XX. Notices of Recent Ornithological Publications:—

1. *English*:—Sharpe's 'Monograph of the *Alcedinidæ*,' parts ii. and iii.; Wallace's 'Malay Archipelago;' Huxley on *Alectoromophæ* 215
2. *French*:—A. Milne-Edwards's 'Oiseaux Fossiles de la France;' Ornithological Papers in the 'Revue de Zoologie' 218
3. *Italian*:—Salvadori on Birds from Costa Rica, and new *Caprimulgidæ* 222
4. *Dutch*:—Finsch's 'Die Papageien,' vol. ii. 223
5. *Norwegian*:—Collett's 'Norges Fugle' 225
6. *Russian*:—Brandt on the Affinities of the Dodo 227
7. *American*:—Coues's 'List of the Birds of New England' 228

XXI. Letters, Announcements, &c.:—

Letters from Drs. Malmgren, Jerdon, and Cunningham, Messrs. Brooks and Hume, Prof. Reinhardt, Dr. Giglioli, and Lord Walden; Extracts from a letter from Dr. Brewer; Death of Mr. Cassin; Erratum 229

Covers for binding last year's Volume may be had on application to the Publisher, at 1*s.* 4*d.* each.

Communications may be addressed to the Editor, Professor Newton, Magdalene College, Cambridge. Books for Review, Subscriptions, Advertisements, &c. to the Publisher, John Van Voorst, 1 Paternoster Row, London, E.C.

Members of the B. O. U. are requested to keep the Secretary, Osbert Salvin, Esq. (32 The Grove, Boltons, London, S.W.), informed of any change of Residence, that the Numbers of 'The Ibis' may be sent them accordingly.

NEW SERIES.
Vol. V. No. 19.

JULY 1869.

Price 6s.

THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY

ALFRED NEWTON, M.A.,
PROFESSOR OF ZOOLOGY AND COMPARATIVE ANATOMY
IN THE UNIVERSITY OF CAMBRIDGE,
F.L.S., V.P.Z.S., ETC., ETC.

LONDON:
JOHN VAN VOORST, 1, PATERNOSTER ROW.

Annual Subscription, payable before 31*st March each year,* £1 1s.

TAYLOR AND FRANCIS, PRINTERS,] [RED LION COURT, FLEET STREET.

Books on Ornithology published by Mr. Van Voorst.

Annual Subscription, payable before 31st March, £1 1*s.*

THE IBIS,

A QUARTERLY JOURNAL OF ORNITHOLOGY.

NEW SERIES.

EDITED BY

ALFRED NEWTON, M.A.,

PROFESSOR OF ZOOLOGY AND COMPARATIVE ANATOMY IN THE UNIVERSITY OF CAMBRIDGE, F.L.S., V.P.Z.S., ETC.

Single Numbers will be charged 6*s.* each until three months after the date of publication, after which the price will be advanced to 7*s.* 6*d.*

Vol. I. (to be completed in 2 vols.), Demy 8vo, pp. 445, price 10*s.* 6*d.*
With Two Illustrations by Wolf.

THE BIRDS OF NORFOLK.

By HENRY STEVENSON, F.L.S.

Royal 8vo, cloth, price 7*s.* 6*d.*

A DESCRIPTIVE CATALOGUE OF THE RAPTORIAL BIRDS IN THE NORFOLK AND NORWICH MUSEUM.

By JOHN HENRY GURNEY.

Part I., containing Serpentariidæ, Polyboridæ, Vulturidæ.

Post 8vo, pp. 272, price 7*s.* 6*d.*, with Lithograph Frontispiece by Wolf.

THE BIRDS OF MIDDLESEX.

A CONTRIBUTION TOWARDS THE NATURAL HISTORY OF THE COUNTY.

By JAMES EDMUND HARTING, F.Z.S.

Price 7*s.* 6*d.*, a Third Edition of

ORNITHOLOGICAL RAMBLES IN SUSSEX,

WITH A CATALOGUE OF THE BIRDS OF THAT COUNTY, AND REMARKS ON THEIR LOCAL DISTRIBUTION.

By A. E. KNOX, M.A., F.L.S., F.Z.S.

In the Press,

THE BIRDS OF SOMERSETSHIRE.

By CECIL SMITH.

One Volume, Post 8vo.

Just Published, 8vo, pp. 244. Price 7*s.* 6*d.* With Four Illustrations by the Author.

THE BIRDS OF SHERWOOD FOREST.

WITH NOTES ON THEIR HABITS, NESTING, MIGRATIONS, &c.
BEING A CONTRIBUTION TO THE NATURAL HISTORY OF THE COUNTY.

BY

W. J. STERLAND.

London: L. Reeve & Co., 5 Henrietta Street, Covent Garden.

Lately Published, 8vo, pp. 382. Price 7*s.* 6*d.*

THE BIRDS OF SOUTH AFRICA.

A DESCRIPTIVE CATALOGUE OF ALL THE KNOWN SPECIES OCCURRING SOUTH OF THE TWENTY-EIGHTH PARALLEL OF LATITUDE.

BY

EDGAR LEOPOLD LAYARD, F.Z.S.,
CURATOR OF THE SOUTH-AFRICAN MUSEUM, ETC.

London: Longmans; Trübner.

Now Publishing.

Recherches Anatomiques et Paléontologiques pour servir à l'histoire des

OISEAUX FOSSILES DE LA FRANCE.

PAR

M. ALPHONSE MILNE-EDWARDS,
PROFESSEUR DE ZOOLOGIE À L'ÉCOLE SUPÉRIEURE DE PHARMACIE,
AIDE-NATURALISTE AU MUSÉUM D'HISTOIRE NATURELLE, ETC.

Cet ouvrage se composera de deux volumes de texte, format grand in-4° et d'un Atlas d'environ 200 planches lithographiées, même format. Il paraîtra par livraisons de 2 ou 3 feuilles de texte et de 5 planches.

Prix de la livraison: 5 francs, et de l'ouvrage complet, pour les souscripteurs: 200 francs.

Paris: Victor Masson et Fils, Place de l'Ecole de Médecine.

Just Published, 8vo, pp. 68, xxxi. With a Map.

ORNITHOLOGIE BRASILIENS,

RESULTATE VON JOHANN NATTERERS REISEN IN DEN JAHREN 1817 BIS 1835.

DARGESTELLT VON

AUGUST VON PELZELN,
Custos am K.K. zoologischen Cabinete in Wien.

I. II. ABTHEILUNGEN.

Wien: Pichler's Witwe & Sohn. London: Williams & Norgate.

CONTENTS OF NUMBER XIX.—NEW SERIES.

Page

XXII. Third Appendix to a List of Birds observed in Malta and Gozo. By Charles A. Wright, C.M.Z.S. 245

XXIII. Researches into the Zoological Affinities of the Bird recently described by *Herr von Frauenfeld* under the name of *Aphanapteryx imperialis*. By Alphonse Milne-Edwards. (Plate VII.) 256

XXIV. On the Kingfishers of South Africa. By R. B. Sharpe 275

XXV. Second List of Birds collected, during the Survey of the Straits of Magellan, by *Dr. Cunningham*. By P. L. Sclater, M.A., Ph.D., F.R.S., and Osbert Salvin, M.A., F.L.S., F.Z.S. 283

XXVI. Notes on Birds of the Territory of the Trans-Vaal Republic. By Thomas Ayres 286

XXVII. On rare or little-known *Limicolæ*. By James Edmund Harting, F.L.S., F.Z.S. (Plate VIII.) 304

XXVIII. Notes on *Mr. Lawrence's* List of Costa-Rica Birds. By Osbert Salvin, M.A. &c. 310

XXIX. The Strickland Collection in the University of Cambridge. By The Editor. (Plate IX.) 320

XXX. On the *Cuculidæ* described by *Linnæus* and *Gmelin*, with a sketch of the Genus *Eudynamis*. By Arthur Viscount Walden, P.Z.S. &c. (Plate X.) 324

XXXI. Letters, Announcements, &c.:—

Letters from Messrs. E. P. Ramsay, Swinhoe, and Gerard Krefft, Prof. Baird, Capt. F. W. Hutton, Messrs. W. E. Brooks, Allan Hume, and Boyd Dawkins, and Capt. Feilden; Death of Mr. Hepburn 346

⁂ *We are compelled by the pressure on our space to omit the usual "Notices of Recent Ornithological Publications."*

Covers for binding last year's Volume may be had on application to the Publisher, at 1*s.* 4*d.* each.

Communications may be addressed to the Editor, Professor Newton, Magdalene College, Cambridge. Books for Review, Subscriptions, Advertisements, &c. to the Publisher, John Van Voorst, 1 Paternoster Row, London, E.C.

Members of the B. O. U. are requested to keep the Secretary, Osbert Salvin, Esq. (32 The Grove, Boltons, London, S.W.), informed of any change of Residence, that the Numbers of 'The Ibis' may be sent them accordingly.

NEW SERIES.
VOL. V. NO. 20. OCTOBER 1869. *Price 6s.*

THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY

ALFRED NEWTON, M.A.,
PROFESSOR OF ZOOLOGY AND COMPARATIVE ANATOMY
IN THE UNIVERSITY OF CAMBRIDGE,
F.L.S., V.P.Z.S., ETC., ETC.

LONDON:
JOHN VAN VOORST, 1, PATERNOSTER ROW.

Annual Subscription, payable before 31st March each year, £1 1s.

TAYLOR AND FRANCIS, PRINTERS.] [RED LION COURT, FLEET STREET.

PROSPECTUS.

A MONOGRAPH
OF THE
PHASIANIDÆ;
OR,
FAMILY OF THE PHEASANTS.

BY

D. G. ELLIOT, F.L.S., F.Z.S., &c.

Under this title it is proposed to publish a work containing descriptions and figures of those species of Birds which, by their habits, plumage, and general structure, unite in forming the natural group which has been designated by Naturalists as the family Phasianidæ.

Birds so showy and attractive should be worthily represented, and the author has the satisfaction to announce that the plates will be drawn from original paintings, executed expressly for the present work by Mr. Joseph Wolf, whose characteristic delineations of Birds have justly earned for him a world-wide reputation. The lithography will be entrusted to Mr. J. G. Keulemans, who is fast establishing himself as a first-rate draughtsman of animal life; thus it will be seen that the author has spared no pains or expense to secure the best available talent in the world.

The work will be issued in Parts, each containing Fifteen Plates, the figures to be *of the size of life*, and all *coloured by hand*. The price of each Part, to *Subscribers only*, will be Four Guineas. All the stones, immediately the required number of impressions has been struck off, will be erased, thus limiting the number of copies, and greatly increasing the value of the work. In consequence of the great outlay consequent on the production of such a Monograph, the author will require to have the names of two hundred Subscribers before the publication can be commenced, and each part must be paid for on delivery.

Not more than two Parts will be issued annually, and the whole work will be completed in Five Parts.

Intending Subscribers are respectfully requested to send their names to the author, care of the Zoological Society of London, 11 Hanover Square, W.

⁂ Among the Recent Ornithological Publications which stand for Notice are:—

English:—Gould's 'Birds of Great Britain;' Sclater and Salvin's 'Exotic Ornithology;' Sharpe's 'Monograph of the *Alcedinidæ*;' Turnbull's 'Birds of East Pennsylvania and New Jersey;' Bowden's 'Naturalist in Norway;' Sterland's 'Birds of Sherwood Forest;' Hutton on the Flight of the Albatros; Theobald on Indian Oology.

French:—Ornithological papers in the 'Revue et Magasin de Zoologie.'

Italian:—De Betta on Birds of Venetia; Salvadori's 'Monografia del Genere *Ceyx*.'

Portuguese:—Bocage's 'Museu nacional de Lisboa'—*Psittaci* and *Accipitres*.

Dutch:—Van Wickevoort-Crommelin's 'Notes ornithologiques sur la Faune des Pays-Bas;' Keulemans's 'Onze Vogels in Huis en Tuin.'

German:—Cabanis on the Ornithology of Van der Decken's Travels; Hartlaub and Finsch's 'Ornithologie Ostafrica's—Einleitung;' Von Heuglin's 'Ornithologie Nordost-Afrika's;' Borggreve's 'Vogel-Fauna von Nord Deutschland;' Droste-Hülshoff's 'Vogelwelt der Nordseeinsel Borkum;' and 'Bericht über die XVII. Versammlung der Deutschen Ornithologen Gesellschaft.'

Finnish and Russian:—Mäklin on the systematic arrangement of Birds; Middendorff's 'Thierwelt Sibirien's.'

American:—Elliot's 'Birds of North America;' Sumichrast on the Birds of Vera Cruz; Lawrence on the Birds of Costa Rica (continuation), Birds from Yucatan and New American Birds; Ornithological papers in the 'American Naturalist.'

Australasian:—Diggles's 'Ornithology of Australia;' Ornithological papers in the 'Transactions and Proceedings of the New Zealand Institute.'

RECORD OF ZOOLOGICAL LITERATURE

FOR THE YEAR 1868 (VOL. V.).

EDITED BY A. C. L. G. GÜNTHER, M.A., M.D., F.R.S.,

Just published, Part I. Price 10*s*.

Containing the Reports on MAMMALS, BIRDS, REPTILES, and FISHES (the Ornithological portion by Professor NEWTON).

Just Published, 12mo, pp. 643. Price 7*s*. 6*d*.

THE BIRDS OF SOMERSETSHIRE.

BY CECIL SMITH,

OF LYDEARD HOUSE, NEAR TAUNTON.

JOHN VAN VOORST, 1, PATERNOSTER ROW.

CONTENTS OF NUMBER XX.—NEW SERIES.

Page

XXXII. Further Notes on South-African Ornithology. By E. L. Layard, F.Z.S. &c. 361

XXXIII. Remarks on some species of Birds from New Zealand. By Dr. O. Finsch, C.M.Z.S. &c. 378

XXXIV. On two more Collections of Birds from the Fantee Country. By R. B. Sharpe. (Plate XI.) 381

XXXV. Birds observed during two voyages across the North Atlantic. By George Cavendish Taylor, F.Z.S. 388

XXXVI. Notes on the Ornithology of Italy and Spain. By Howard Saunders, F.Z.S. 391

XXXVII. Additional Notes on various Indian Birds. By R. C. Beavan, Bengal Staff Corps, C.M.Z.S. 403

XXXVIII. On rare or little-known *Limicolæ*. By James Edmund Harting, F.L.S., F.Z.S. (Plate XII.) 426

XXXIX. Notes on some African Birds. By the Rev. H. B. Tristram, M.A., LL.D., F.R.S., &c. 434

XL. Notes on the Bills of the species of Flamingo (*Phœnicopterus*). By G. R. Gray, F.R.S. &c. (Plates XIII.–XV.) 438

XLI. Notes on the Birds-of-prey of Madagascar and some of the adjacent Islands. By J. H. Gurney, F.Z.S. (Plate XVI.) 443

XLII. Letters, Announcements, &c.:—

Letters from Messrs. C. Horne, A. O. Hume, W. E. Brooks, E. L. Layard, and R. B. Sharpe, Sir William Jardine, and Messrs. P. L. Sclater, J. H. Gurney, and Swinhoe; Announcement of Mr. G. R. Gray's 'Hand-List of Birds' and of Mr. Elliot's proposed Monograph of the *Phasianidæ*; Delay of Notices of Recent Ornithological Publications 454

Index 465

Titlepage, Preface, Contents, &c.

Covers for binding last year's Volume may be had on application to the Publisher, at 1*s.* 4*d.* each.

Communications may be addressed to the Editor, Professor Newton, Magdalene College, Cambridge. Books for Review, Subscriptions, Advertisements, &c. to the Publisher, John Van Voorst, 1 Paternoster Row, London, E.C.

Members of the B. O. U. are requested to keep the Secretary, Osbert Salvin, Esq. (32 The Grove, Boltons, London, S.W.), informed of any change of Residence, that the Numbers of 'The Ibis' may be sent them accordingly.

The Ibis 1869 Vol.5 Ne

THE HECKMAN BINDERY INC
BOUND TO PLEASE
APR 69
N. MANCHESTER,
INDIANA

AMNH LIBRARY
100109434